

BRIGHAM YOUNG UNIVERSITY



Annual Catalog Issue
1960-61

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Symbols Used

Courses fulfilling general education requirements in each of five basic areas:

(G-BS) Biological Science

(G-HA) Humanities and Aesthetics

(G-PS) Physical Science

(G-R) Religion

(G-SS) Social Science

† A general education course which has a prerequisite

* In Administration and Faculty section and in departmental faculty listings, faculty member on leave during the current school year
In other sections of catalog, footnote reference

** Footnote reference

*** Footnote reference

**** Footnote reference

Cover: Full-color reproduction of the Joseph F. Smith Family Living Center.

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Provo, Utah

April 20, 1960

No. 22

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Brigham Young University Bulletin



CATALOG OF COURSES

1960-61

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1961

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JAN.	1	2	3	4	5	6	7	JULY	2	3	4	5	6	7	8
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1960

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	26	27	28	29	30				25	26	27	28	29	30	31

University Calendar

1960-61

Although as accurate as possible at the time of the printing of this catalog, the calendar is subject to change at the discretion of the University administration.

First Semester

September 15, 16 (Thursday, Friday): Utah Conference on Higher Education.

September 19, 20 (Monday, Tuesday): Faculty Workshop and first regular faculty meeting.

September 21, 22, 23, 24 (Wednesday, Thursday, Friday, Saturday): Orientation and placement tests for all freshmen and sophomores who will register at B.Y.U. for the first time. Late fees will be charged all new students who fail to appear for these tests, which begin Wednesday, September 21 at 1:30 p.m. in the George Albert Smith Fieldhouse.

September 26, 27 (Monday, Tuesday): Registration for all regular and special students. Students will register in an alphabetical order to be announced. A late fee will be charged all students registering after this date.

September 28 (Wednesday): Class instruction begins.

October 1 (Saturday): Junior English Proficiency Examination.

October 17 (Monday): Last day on which late registration may occur for First Semester and for dropping and adding classes.

October 15 (Saturday): Homecoming.

November 18 (Friday): Mid-semester registration for courses available to students on special authorization.

November 24, 25, 26 (Thursday, Friday, Saturday): Thanksgiving recess.

December 22 (Thursday) - January 3 (Tuesday): Christmas Vacation period.

January 16 (Monday) through January 27 (Friday): Registration for Second Semester.

January 30, 31, February 1, 2, 3 (Monday, Tuesday, Wednesday, Thursday, Friday): Final Examination period.

February 3 (Friday): First Semester closes.

Second Semester

February 6 (Monday): Registration for all new students. A late fee will be charged all new students registering after this date.

February 6 (Monday): Class instruction begins.

February 11 (Saturday): Junior English Proficiency Examination.

February 24 (Friday): Last day on which late registration may occur for Second Semester, and for dropping and adding classes.

March 31 (Friday): Mid-semester registration for courses available to students on special authorization.

May 27 (Saturday): Senior Day.

May 29, 30, 31, June 1, 2 (Monday, Tuesday, Wednesday, Thursday, Friday): Final Examination period.

June 2 (Friday): Baccalaureate Services.

June 3 (Saturday): Commencement.

Summer Session

June 12 through 16: Workshop Week.

June 19 (Monday): Registration.

June 20 (Tuesday): First Term begins.

July 4 (Tuesday): National holiday observed.

July 17 through 28: Optional workshop period.

July 21 (Friday): First Term ends.

July 24 (Monday): State holiday observed.

July 25 (Tuesday): Second Term begins.

August 25 (Friday): Second Term ends. Summer Convocation held.

Evening Classes

Evening classes correspond to the above official calendar.

Administration and Faculty

Board of Trustees of Brigham Young University

DAVID O. McKAY	President
J. REUBEN CLARK, JR.	First Vice-President
HENRY D. MOYLE	Second Vice-President

JOSEPH FIELDING SMITH
 HAROLD B. LEE
 SPENCER W. KIMBALL
 EZRA TAFT BENSON
 MARK E. PETERSEN
 DELBERT L. STAPLEY
 MARION G. ROMNEY
 LeGRAND RICHARDS
 RICHARD L. EVANS
 GEORGE Q. MORRIS
 HUGH B. BROWN
 HOWARD W. HUNTER
 CLYDE D. SANDGREN, Secretary

Executive Committee of Brigham Young University Board of Trustees

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 DELBERT L. STAPLEY
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 GEORGE Q. MORRIS
 HUGH B. BROWN
 ERNEST L. WILKINSON
 CLYDE D. SANDGREN, Secretary

University Administrative Officers

MEMBERS OF THE ADMINISTRATIVE COUNCIL

President	Ernest L. Wilkinson
Administrative Assistant	John T. Bernhard
Assistant to the President in Charge of University Development	William Noble Waite*
Vice-President	William E. Berrett
Vice-President	Earl C. Crockett
Vice-President	Harvey L. Taylor
Comptroller	Joseph T. Bentley
General Counsel	Clyde D. Sandgren
Director of Auxiliary Services	Ben E. Lewis

*Not on Administrative Council

DEANS OF COLLEGES

Biological and Agricultural Sciences, Acting Dean	Merrill J. Hallam
Business	Weldon J. Taylor
Education	Asahel D. Woodruff
Assistant Dean	
Family Living	Jack B. Trunnell
Fine Arts	Conan E. Mathews
General College	Wayne B. Hales
Humanities and Social Sciences	Leonard W. Rice
Nursing	L. Bernice Chapman
Physical and Engineering Sciences	Armin J. Hill
Physical Education	Milton F. Hartvigsen
Religious Instruction	David H. Yarn, Jr.

DEAN OF STUDENTS

Dean	Antone K. Romney
Assistant Dean	Howard T. Reid

DEANS AND DIRECTORS OF SCHOOLS

Graduate School, Dean	Wesley P. Lloyd
Summer School, Director	Dean A. Peterson

DIRECTOR OF DIVISION

Research Division	H. Tracy Hall
-------------------------	---------------

ADMINISTRATIVE OFFICERS OF OTHER ACADEMIC UNITS

Adult Education and Extension Services, Dean	Harold Glen Clark
For other administrative officers in this area see Adult Education and Extension Services Section of this catalog.	
Laboratory Schools, Director	Edwin C. Read
Libraries, Director	S. Lyman Tyler
Administrative Assistant	James R. Tolman
Librarian, Science Library	William Nash
Librarian, Life Sciences Library	Carol Smith
Librarian, High School Library	June Berry
Librarian, Elementary School Library	Carma Sandberg
University Archivist	Ralph Hansen

CHAIRMEN OF DEPARTMENTS OF INSTRUCTION

Accounting	Robert J. Smith
Agricultural Economics	Ivan L. Corbridge

Agronomy	R. Chase Allred
Air Science	Lt. Colonel William J. Gibson
Animal Husbandry	Lawrence Morris
Archaeology	Ross T. Christensen
Art	J. Roman Andrus
Bacteriology	David M. Donaldson
Bible and Modern Scripture	Daniel H. Ludlow
Biblical Languages	Ellis Rasmussen
Botany	Kent H. McKnight
Business Education and Office Management	Edward Christensen
Business Management	Clinton L. Oaks
Chemical Engineering Science	James J. Christensen
Chemistry	Albert D. Swensen
Civil Engineering Science	Ralph L. Rollins
Clothing and Textiles	Eleanor Jorgensen
Economics	Glen T. Nelson
Educational Administration	Keith R. Oakes
Educational Philosophy and Programs	Stephen R. Alley
Educational Research and Services	Robert L. Egbert
Electrical Engineering Science	Darrel J. Monson
English	Bruce B. Clark
Food and Nutrition	Marian Bennion
Geography	Albert L. Fisher
Geology and Geological Engineering Science	Kenneth C. Bullock
Health and Safety Education	Ray Watters
History	Eugene E. Campbell
History and Philosophy of Religion	Truman G. Madsen
Homemaking Education	Virginia Poulson
Horticulture and Horticultural Specialties	Ernest F. Reimschuessel
Housing and Home Management	Stephen Stanford
Human Development and Family Relationships	Blaine M. Porter
Industrial Education	Guy Pierce
Instruction	Dean C. Christensen
Intercollegiate Athletics	Edwin R. Kimball
Journalism	Jean R. Paulson
Languages	Darrel Taylor
L.D.S. Theology, Church Organization and Administration	Rodney Turner
Library Science	Hattie M. Knight
Mathematics	Harvey J. Fletcher
Mechanical Engineering Science	John M. Simonsen
Music	Crawford Gates
Physical Education for Men	Charles J. Hart

Physical Education for Women	Leona Holbrook
Physics	E. John Eastmond
Political Science	Stewart L. Grow
Psychology	Mark K. Allen
Recreation	Israel C. Heaton
Religious Education	B. West Belnap
Sociology and Anthropology	Reed H. Bradford
Speech and Dramatic Arts	Harold I. Hansen
Statistics	Howard C. Nielson
Technical and Semi-Professional Institute	Wayne B. Hales
Youth Leadership	Thane Packer
Zoology and Entomology	C. Lynn Hayward

ADMINISTRATIVE OFFICERS, NON-INSTRUCTIONAL UNITS

Admissions and Records, Dean	Alma P. Burton
Admissions Officer	Orrin H. Jackson
Records Officer	Lucile Spencer
Registration Officer	Donald Nelson
Veterans and Statistics Officer	Richard K. Grover
Alumni Relations, Director	Raymond E. Beckham
Director of Alumni Funds	Ronald G. Hyde
Auxiliary Services, Director	Ben E. Lewis
Food Service, Manager	Wells Cloward
Photo Studio, Manager	Don Pugmire
Purchasing Agent	C. R. Peterson
Mail Service, Post Office, Purchasing, Receiving	
Student Housing, Director	Fred A. Schwendiman
University Press, Manager	Franklin R. Haymore
Motion Picture Production, Director	Wetzel O. Whitaker
Comptroller	Joseph T. Bentley
Accountant, University	C. Joseph Rowberry
Auditor, University	J. Alan Blodgett
Data Processing Office, Director	Richard W. Dayhuff
Placement Bureau, Director	B. Keith Duffin
Students Supply, Manager	H. Neil McKnight
Ticket Bureau, Director	Floyd R. Taylor
Treasurer, University	Kiefer B. Sauls
Physical Plant, Director	Sam F. Brewster
Planning Division, Principal Architect	Richard H. Johnson
Construction Division, Construction Engineer	W. L. Westman
Maintenance and Operations Division,	
Assistant to the Director	Cecil R. Oak
Public Relations, Director	Lester B. Whetten
Booking University Attractions, Chairman	James H. Lawrence
Civic and Church Organization Relations, Chairman	Lester B. Whetten
Devotional Assemblies, Chairman	Herald R. Clark

Junior College Relations, Chairman	Lester B. Whetten
Press Relations, Chairman	Edwin J. Butterworth
Program Bureau, Chairman	James H. Lawrence
Program Coordinator	Jane Thompson
Radio and Television Programs, Chairman	Owen S. Rich
Servicemen's Letter Committee, Chairman	T. Earl Pardoe
University and Professional Relations, Chairman	Lester B. Whetten
University Mailing Center, Chairman	C. LaVar Rockwood
University Publications, Chairman	Ernest LeRoy Olson
University Speakers Bureau, Chairman	Lorin Jex
Scheduling of Extracurricular Events, Chairman	Antone K. Romney
Scholarships, Fellowships and Academic Grants, Chairman	Antone K. Romney
Students, Dean	Antone K. Romney
Assistant Dean	Howard T. Reid
Academic Standards, Chairman	Darrell L. Moses
Counseling Service, Chairman	Clyde A. Parker
Counselor for Women	Klea Worsley
Foreign Students, Adviser	Ariel S. Ballif
Indian Students, Adviser	Robert F. Gwilliam
Program and Personnel, Men's Housing, Director	Blaine Parkinson
Program and Personnel, Women's Housing, Director	Cleo McCracken
Student Employment, Director	B. Keith Duffin
Security Officer	Leonard E. Christensen
Special Student Problems, Adviser	Alma W. King
Student Health Services, Director	Richard A. Nimer
Student Organizations, Coordinator	Paul E. Felt
Student Personnel Assistant	Kenneth Lauritzen

Councils

ADMINISTRATIVE COUNCIL

On matters of over-all policy the following meet as an administrative council for the purpose of advising the President and resolving mutual problems: Ernest L. Wilkinson, President; John T. Bernhard, Administrative Assistant; William E. Berrett, Earl C. Crockett, and Harvey L. Taylor, Vice-Presidents; Clyde D. Sandgren, General Counsel; Joseph T. Bentley, Comptroller; and Ben E. Lewis, Director of Auxiliary Services.

DEANS' COUNCIL

The Deans' Council consists of the administrative council, all deans, and the directors of schools and divisions.

GRADUATE COUNCIL

The chief administrative body of the graduate faculty is the Graduate Council, which consists of (1) the academic vice-president of the University, the dean of the Graduate School, and the director of research, ex officio; (2) four members of the graduate faculty elected at large for terms of three years; and (3) nine members of the graduate faculty, one elected from each of the nine colleges in which there are departments offering graduate work.

THE EXTENSION SERVICES COUNCIL

The Extension Services Council is an advisory body for the Adult Education and Extension Services.

Faculty

Emeriti

- Clarence S. Boyle** Professor Emeritus of Marketing
B.S., Brigham Young University, 1924; M.S., Ed.D., New York University, 1926, 1941.
- William H. Boyle** Professor Emeritus of Education
B.A., M.A., Brigham Young University, 1913, 1923.
- Ella Larsen Brown** Librarian Emeritus
- Gustave O. Buggert** Assistant Professor Emeritus of Music
- Elsie C. Carroll** Associate Professor Emeritus of English
B.S., M.A., Brigham Young University, 1926, 1928.
- Benjamin F. Cummings** Professor Emeritus of Modern and
Classical Languages
B.A., University of Utah, 1913.
- Lillian Booth Davis** Assistant Professor Emeritus of Student
Personnel Services
B.S., M.S., Brigham Young University, 1940, 1950.
- Norman Dunn** Instructor Emeritus in English
King's Scholar, M.R.S.T., Saltley College, Birmingham, England, 1902-04, 1922.
- J. Orval Ellsworth** Professor Emeritus of Religion
B.S., Utah State University, 1917; M.S., Ph.D., Cornell University, 1924, 1926.
- Flora D. Fisher** Assistant Professor Emeritus of Education
B.S., M.S., Brigham Young University, 1936, 1949.
- May C. Hammond** Assistant Professor Emeritus of Education
B.S., M.S., Brigham Young University, 1934, 1949.
- William F. Hansen** Assistant Professor Emeritus of Music
B.S., M.S., Brigham Young University, 1936, 1937.
- John E. Hayes** Registrar Emeritus
B.S., Brigham Young University, 1924.
- Harrison Val Hoyt** Professor Emeritus of Accounting; Dean
Emeritus of the College of Commerce
B.S., Purdue University, 1913; M.B.A., Harvard University, 1917; Ph.D., Stanford
University, 1931.
- Christen Jensen** Professor Emeritus of History and Political
Science, Dean Emeritus of the Graduate School
and President Emeritus of the University
B.A., University of Utah, 1907; M.A., Harvard University, 1908; Ph.D., University of
Chicago, 1921.
- Bent F. Larsen** Professor Emeritus of Art
B.A., Brigham Young University, 1912; M.A., University of Utah, 1922.
- John W. McAllister** Instructor Emeritus in Education
and Public School Music
B.A., Brigham Young University, 1927.
- Florence Jepperson Madsen** Professor Emeritus of Music
B.M., M.M., Chicago Musical College, 1926, 1927; Doctor of Music, Boguslawski Col-
lege of Music, 1932; B.A., Brigham Young University, 1934; M.M., hon. Doctor of
Music, Chicago College of Music, 1933.
- Franklin Madsen** Professor Emeritus of Music
B.A., M.A., Brigham Young University, 1925, 1931; B.M., 1926; M.M., 1927; B.M.E.,
1928; Mus. Doc., 1929; M.M.E., 1932; hon. Doctor of Music Education, Boguslawski
College of Music, 1933; hon. Doctor of Music Education, Chicago College of Music,
1934.

- Georgia Maeser** Assistant Professor Emeritus of Education
B.S., Brigham Young University, 1928; M.A., Columbia University, 1938.
- T. Earl Pardoe** Professor Emeritus of Speech
B.A., Brigham Young University, 1925; M.A., University of Southern California, 1931; Ph.D., Louisiana State University, 1936.
- Hermese Peterson** Professor Emeritus of Education
B.S., Brigham Young University, 1928.
- M. Wilford Poulson** Professor Emeritus of Psychology
B.A., Brigham Young University, 1914; M.A., University of Utah, 1919.
- J. Wyley Sessions** Professor Emeritus of Religious Philosophy
B.S., Utah State University, 1911; M.A., University of Idaho, 1928.
- William H. Snell** Professor Emeritus of Industrial Arts
B.A., M.S., Brigham Young University, 1918, 1939.
- Margaret Summerhays** Assistant Professor Emeritus of Music
Graduate, New England Conservatory of Music, 1916; B.A., Brigham Young University, 1936.
- Effie Warnick** Professor Emeritus of Home Economics
B.S., Utah State University, 1914; M.S., Iowa State College, 1937.

Members of the Instructional and Administrative Staff

- George M. Addy** Assistant Professor of History (1957)
B.A., M.A., Brigham Young University, 1948, 1950; Ph.D., Duke University, 1957.
- Lorna Call Alder** Assistant Professor of Education (1949)
B.S., Brigham Young University, 1935; M.A., Columbia University, 1940.
- Zane G. Alder** Instructor in English (1955)
B.S., M.S., Utah State University, 1948, 1956.
- A. Lester Allen** Associate Professor of Zoology (1954)
B.A., Ph.D., University of California at Los Angeles, 1946, 1951. (On leave for post-doctoral research.)
- Mark K. Allen** Professor of Psychology (1946)
B.A., Brigham Young University, 1926; M.A., Stanford University, 1935; Ph.D., Stanford University, 1955.
- Stephen L. Alley** Associate Professor of Educational Philosophy (1956)
B.S., M.S., University of Utah, 1947, 1951; Ed.D., Harvard University, 1958.
- Donald M. Allred** Assistant Professor of Zoology and Entomology (1956)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Utah, 1954.
- Mildred E. Allred** Instructor in Nursing (1954)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1925; B.S., Brigham Young University, 1943.
- R. Chase Allred** Associate Professor of Agronomy (1955)
B.S., Brigham Young University, 1948; M.S., Kansas State College, 1949; Ph.D., University of Nebraska, 1952.
- Captain Ray W. Alvord** Assistant Professor of Air Science (1958)
B.S., Utah State University, 1950; M.Ed., Stanford University, 1955.
- Mignon H. Alward** Instructor in Nursing (1953)
Diploma, Latter-day Saint Hospital, Salt Lake City, 1945; B.S., University of Utah, 1946.
- H. Verlan Andersen** Professor of Accounting (1953)
B.S., Brigham Young University, 1940; LL.B., Stanford University, 1946; LL.M., Harvard University, 1948; C.P.A., State of Arizona, 1943.
- C. Dixon Anderson** Instructor in Modern Languages (1956)
B.A., Brigham Young University, 1953; M.A., University of Texas, 1956.

- Floyd M. Anderson** Associate Professor of Human Development and Family Relationships (1956)
B.S., Brigham Young University, 1950; Ed.D., Teachers College, Columbia University, 1956.
- ***Keith P. Anderson** Professor of Chemistry (1953)
B.A., Brigham Young University, 1946; Ph.D., Cornell University, 1950. (On leave for post-doctoral research and study.)
- Richard L. Anderson** Assistant Professor of Religion (1955)
B.A., M.A., Brigham Young University, 1951, 1957; LL.B., Harvard University, 1954.
- Vernon L. Anderson** Associate Professor of Modern Languages (1956)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., Stanford University, 1954.
- Hyrum L. Andrus** Assistant Professor of Religion (1956)
B.S., Ricks College, 1951; M.S., Brigham Young University, 1952; D.S.S., Syracuse University, 1955.
- J. Roman Andrus** Professor of Art and Education (1943)
B.S., M.S., Brigham Young University, 1942, 1943; Ed.D., University of Colorado, 1958.
- Chris J. Apostol** Instructor in Physical Education (1959)
B.S., Utah State University, 1950.
- Nina Mae Argyle** Special Instructor in Clothing and Textiles (1957)
B.S., Brigham Young University, 1955.
- Marilyn Arnold** Instructor in Journalism (1959)
B.S., M.S., Brigham Young University, 1957, 1958.
- Clarence D. Ashton** Associate Professor of Horticulture and Horticultural Specialties (1951)
B.S., Brigham Young University, 1929.
- Hyrum J. Babcock** Assistant Professor of Education (1954)
B.A., M.A., Ph.D., University of California, 1939, 1940, 1953.
- ***Dale S. Bailey** Instructor in English (1955)
B.A., Brigham Young University, 1952; M.A., Columbia University, 1954. (On leave for graduate study at Indiana University.)
- Ariel S. Ballif** Professor of Sociology (1938)
B.S., Brigham Young University, 1925; M.A., Ph.D., University of Southern California, 1937, 1945.
- Richard Ballou** Instructor in Music (1951)
B.A., M.A., Brigham Young University, 1948, 1953.
- Blauer L. Bangerter** Instructor in Physical Education (1953)
B.A., Brigham Young University, 1951; M.S., University of Utah, 1955.
- Reid E. Bankhead** Assistant Professor of Religion (1949)
B.S., University of Utah, 1947; M.Th., Brigham Young University, 1949.
- Dee H. Barker** Associate Professor of Chemical Engineering (1959)
B.S., Ph.D., University of Utah, 1948, 1951.
- Frances P. Barlow** Instructor in Human Development and Family Relationships (1954)
B.S., University of Utah, 1933; M.Ed., Utah State University, 1938.
- J. Dean Barnett** Assistant Professor of Physics (1958)
B.A., University of Utah, 1954; Ph.D., University of Utah, 1959.
- Owen L. Barnett** Associate Professor of Educational Administration (1950)
B.S., M.S., Brigham Young University, 1923, 1927.
- Vesta Barnett** Instructor in Housing and Home Management (1956)
B.S., M.Ed., Brigham Young University, 1932, 1954.
- ***Vernon S. Barney** Assistant Professor of Health and Physical Education (1953)
B.S., Utah State University, 1948; M.S., Brigham Young University, 1956; Diploma in Physical Therapy, Children's Hospital Society School of Physical Therapy, Los Angeles, California, 1952. (On leave for graduate study.)

- Ivan J. Barrett** Assistant Professor of Religion (1953)
B.S., Utah State University, 1938; M.S., Brigham Young University, 1947.
- Howard H. Barron** Assistant Professor of Religion (1953)
B.S., M.S., Utah State University, 1943, 1950; Ed.D., University of Utah, 1953.
- Davis Bartholomew** Professor of Electrical Engineering (1954)
B.S., University of Utah, 1928; M.S., University of Minnesota, 1940; P.E.E., University of Utah, 1948.
- Cliff S. Barton** Associate Professor of Civil Engineering (1959)
B.S., Utah State University, 1947; M.S., Ph.D., Rensselaer Polytechnic Institute, 1953, 1958.
- J. LaVar Bateman** Associate Professor of Speech (1949)
B.A., Brigham Young University, 1941; M.S., Ph.D., University of Wisconsin, 1947, 1950.
- Edith Bartholomew Bauer** Associate Professor of Education (1945)
B.A., M.A., Brigham Young University, 1930, 1946; Ph.D., University of California (Berkeley), 1956.
- Leland K. Baxter** Professor of Mechanical Engineering (1953)
B.S., University of New Mexico, 1948; M.S., Ph.D., Purdue University, 1952, 1953.
- D Elden Beck** Associate Professor of Zoology and Entomology (1938)
B.A., M.A., Brigham Young University, 1929, 1930; Ph.D., Iowa State College, 1933.
- Jay V. Beck** Professor of Bacteriology (1951)
B.A., M.A., Brigham Young University, 1933, 1936; Ph.D., University of California (Berkeley), 1940.
- Wayne B. Beebe** Assistant Professor of Mechanical Engineering (1958)
B.S., M.S., California Institute of Technology, 1951, 1952.
- Elouise M. Bell** Special Instructor in English (1959)
B.A., University of Arizona, 1957; M.A., Brigham Young University, 1959.
- R. DerMont Bell** Assistant Professor of Business Education and Office Management (1957)
B.S., M.S., Brigham Young University, 1955, 1956.
- B. West Belnap** Professor of Religious Education (1951)
B.S., Brigham Young University, 1946; M.A., Ed.D., Columbia University, 1950, 1951.
- Erma Bennett** Instructor in Education (1956)
B.S., Brigham Young University, 1936.
- Marian Bennion** Associate Professor of Food and Nutrition (1952)
B.S., Utah State University, 1947; M.S., Teachers College, Columbia University, 1949; Ph.D., University of Wisconsin, 1956.
- *Anthony I. Bentley** Assistant Professor of Religion (1954)
B.A., Brigham Young University, 1930; M.A., University of Southern California, 1940.
(On leave for graduate study at Utah State University.)
- Joseph T. Bentley** Comptroller; Associate Professor of Accounting
B.S., M.S., Brigham Young University, 1928, 1954; C.P.A., State of Utah, 1946.
- John T. Bernhard** Administrative Assistant to the President; Professor of Political Science (1959)
B.S., Utah State University, 1941; M.A., Ph.D., University of California at Los Angeles, 1949, 1951.
- William E. Berrett** Vice-President; Professor of Religion
B.A., LL.B., University of Utah, 1924, 1933.
- Max J. Berryessa** Assistant Director of Laboratory Schools for Operation; Assistant Professor of Education (1948)
B.S., M.S., Brigham Young University, 1948, 1949; Ed.D., Stanford University, 1959.
- Constance Bethers** Instructor in Nursing (1958)
B.S., University of Utah, 1954.
- Harold J. Bissell** Professor of Geology (1938)
B.S., Brigham Young University, 1934; M.S., Ph.D., University of Iowa, 1936, 1948.

- Angus U. Blackham** Associate Professor of Chemistry (1952)
B.A., Brigham Young University, 1949; M.A., Ph.D., University of Cincinnati, 1950.
1952.
- Robert W. Blair** Instructor in English (1959)
B.A., M.A., Brigham Young University, 1955, 1957.
- Mable Blanch** Special Instructor in English (1958)
B.A., Brigham Young University, 1950.
- T/Sgt. Paul V. Boman** Instructor in Air Science (1958)
- Reed H. Bradford** Professor of Sociology (1946)
B.A., Brigham Young University, 1937; M.A., Louisiana State University, 1939; M.A.,
Ph.D., Harvard University, 1941, 1946.
- Merrill K. Bradshaw** Instructor in Music (1957)
B.A., M.A., Brigham Young University, 1954, 1955; M.Mus., University of Illinois,
1956.
- Marion B. Brady** Instructor in English (1957)
B.A., M.A., Brigham Young University, 1950, 1951.
- Margaret E. Brasher** Instructor in Food and Nutrition (1958)
B.S., Brigham Young University, 1957; M.S., State University of Iowa, 1958.
- Willis H. Brimhall** Instructor in Geology (1956)
B.S., Brigham Young University, 1949; M.S., University of Arizona, 1951.
- *Ralph A. Britsch** Associate Professor of English (1938)
B.A., M.A., Brigham Young University, 1933, 1951. (On leave for graduate study.)
- H. Smith Broadbent** Professor of Chemistry (1946)
B.S., Brigham Young University, 1942; Ph.D., Iowa State College, 1946.
- Billings Brown** Associate Professor of Chemical Engineering (1953)
B.S., M.S., University of Washington, 1951, 1953.
- Jack Vernal Brown** Special Instructor in Languages (1958)
B.A., Brigham Young University, 1957.
- Thomas H. Brown** Assistant Professor of Languages (1959)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Illinois, 1957, 1960.
- Loren C. Bryner** Professor of Chemistry (1935)
B.S., M.S., Brigham Young University, 1928, 1930; Ph.D., Iowa State College, 1934.
- Maurine F. Bryner** Special Instructor in Food and Nutrition (1957)
B.S., Brigham Young University, 1928.
- Kenneth C. Bullock** Professor of Geology (1943)
B.S., M.A., Brigham Young University, 1940, 1942; Ph.D., University of Wisconsin,
1949.
- Robert E. Bunker** Instructor in Physical Education;
Assistant Basketball Coach (1949)
B.S., Utah State University, 1937.
- M. Dallas Burnett** Instructor in Journalism (1958)
B.S., Brigham Young University, 1954; M.S., Northwestern University, 1958.
- Wesley Burnside** Instructor in Art (1958)
B.S., M.S., Brigham Young University, 1941, 1949.
- Percy E. Burrup** Professor of Educational Administration (1952)
B.S., M.S., Utah State University, 1932, 1941; Ed.D., Colorado State College of Educa-
tion, 1951.
- Alma P. Burton** Dean—Admissions and Records; Professor
of Religion (1948)
B.S., Utah State University, 1948; M.S., Brigham Young University, 1950; Ed.D., Uni-
versity of Utah, 1957.
- A/1C Wilford W. Burton** Instructor in Air Science (1960)
- Jess R. Bushman** Assistant Professor of Geology (1955)
B.A., Brigham Young University, 1949; Ph.D., Princeton University, 1959.

- Eliot A. Butler** Assistant Professor of Chemistry (1956)
B.S., Ph.D., California Institute of Technology, 1952, 1956.
- Newbern I. Butt** Assistant Professor of Library and Research (1922)
B.S., Utah State University, 1915; M.S., Brigham Young University, 1939.
- Edwin J. Butterworth** Assistant Professor of Journalism (1949)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1954.
- Glen H. Calder** Assistant Professor of Civil Engineering (1955)
B.S., M.S., Utah State University, 1952, 1953.
- JoAnn Calderwood** Instructor in Physical Education (1955)
B.S., Utah State University, 1953; M.S., State College of Washington, 1955.
- Gaylon L. Caldwell** Associate Professor of Political Science (1951)
B.A., Utah State University, 1947; M.A., University of Nebraska, 1948; Ph.D., Stanford University, 1952.
- Sterling G. Callahan** Professor of Education (1953)
B.A., Brigham Young University, 1937; M.A., George Washington University, 1947; Ed.D., University of Virginia, 1953.
- Eugene E. Campbell** Professor of History (1956)
B.A., M.A., University of Utah, 1939, 1940; Ph.D., University of Southern California, 1952.
- Jennie Campbell** Associate Professor of Education (1952)
B.S., Brigham Young University, 1928; M.A., Teachers College, Columbia University, 1937.
- Clawson Y. Cannon, Jr.** Assistant Professor of Music (1949)
B.M., Eastman School of Music, University of Rochester, 1948; Diploma, Konservatorium Zurich, 1953; B.A., M.A., Brigham Young University, 1954, 1955.
- Clawson Y. Cannon, Sr.** Professor of Animal Husbandry (1956)
B.S., Utah State University, 1913; M.S., Ph.D., Iowa State College, 1924, 1927.
- *John N. Cannon** Assistant Professor of Mechanical Engineering (1957)
B.S.M.E., M.S., University of Utah, 1952, 1955. (On leave for graduate study at Stanford University.)
- Kenneth L. Cannon** Professor of Human Development and Family Relationships (1956)
B.S., Brigham Young University, 1935; M.S., Ph.D., Iowa State College, 1948, 1954.
- Arthur O. Chapman** Associate Professor of Zoology (1959)
B.A., Brigham Young University, 1951; M.A., University of Kansas, 1949; Ph.D., University of Nebraska, 1953.
- L. Bernice Chapman** Associate Professor of Nursing;
Dean, College of Nursing (1954)
Diploma, Community Hospital, Grinnell, Iowa, 1930; B.S., University of Minnesota, 1935; M.A., Columbia University, 1952.
- A. Norton Chaston** Instructor in Electrical Engineering (1957)
B.S., University of Utah, 1951.
- Diane R. Chatwin** Instructor in Physical Education (women) (1958)
B.A., University of Utah, 1956; M.S., University of Wisconsin, 1957.
- Thomas E. Cheney** Associate Professor of English (1945)
B.S., Utah State University, 1930; M.A., University of Idaho, 1936.
- Margaret Potter Childs** Assistant Professor of Clothing and Textiles (1946)
B.S., Brigham Young University, 1939; M.S., Oregon State College, 1949.
- Dean C. Christensen** Associate Professor of Education (1957)
B.S., M.S., Utah State University, 1938, 1948; Ed.D., University of Oregon, 1957.
- Earl M. Christensen** Associate Professor of Botany (1949)
B.S., M.S., University of Utah, 1947, 1949; Ph.D., University of Wisconsin, 1954.
- Edward L. Christensen** Professor of Business Education
and Office Management (1953)
B.S., M.S., Ph.D., University of Utah, 1938, 1939, 1953.

- James J. Christensen** Assistant Professor of Chemical Engineering (1957)
B.S., M.S., University of Utah, 1953, 1956; Ph.D., Carnegie Institute of Technology, 1957.
- Lillian Christensen** Assistant Professor of Education (1950)
B.S., University of Utah, 1938; M.S., Brigham Young University, 1957; Ph.D., Western Reserve University, 1958.
- Parley A. Christensen** Professor of English (1927)
B.S., Utah State University, 1914; M.A., Ph.D., Stanford University, 1925, 1927.
- Ross T. Christensen** Assistant Professor of Archaeology (1952)
B.A., M.A., Brigham Young University, 1943, 1947; Ph.D., University of Arizona, 1956.
- John R. Christiansen** Associate Professor of Sociology (1957)
B.S., M.S., Utah State University, 1949, 1952; Ph.D., University of Wisconsin, 1955.
- Lee Russon Chugg** Special Instructor in Bacteriology (1958)
B.S., Utah State University, 1958.
- Bruce B. Clark** Professor of English (1950)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Utah, 1951.
- David Leigh Clark** Assistant Professor of Geology (1959)
B.S., M.S., Brigham Young University, 1953, 1954; Ph.D., University of Iowa, 1957.
- Harold Glen Clark** Professor of Education; Dean of Adult Education and Extension Services (1946)
B.S., Brigham Young University, 1928; M.S., University of Southern California, 1934; Ed.D., George Washington University, 1942.
- Herald R. Clark** Professor of Finance and Banking (1913)
B.A., Brigham Young University, 1918; M.B.A., University of Washington, 1924.
- J. Reuben Clark, III** Associate Professor of Modern Languages (1941)
B.A., University of Utah, 1934.
- James R. Clark** Assistant Professor of Religious Instruction (1938)
B.A., M.A., Brigham Young University, 1936, 1944; Ed.D., Utah State University, 1958.
- Marden J. Clark** Associate Professor of English (1949)
B.A., M.A., Brigham Young University, 1948, 1949; Ph.D., University of Washington, 1957.
- Monroe H. Clark** Associate Professor of Philosophy of Education and Guidance (1945)
B.A., Columbia University, 1923; M.A., Brigham Young University, 1927.
- A. John Clarke** Professor of Educational Administration (1938)
B.S., M.S., Brigham Young University, 1938, 1942; Ed.D., Colorado University, 1950.
- Morris M. Clinger** Assistant Professor of Speech (1936)
B.A., M.A., Brigham Young University, 1932, 1946.
- *Lane A. Compton** Associate Professor of Physical Science Education (1953)
B.S., M.S., Ed.D., University of Utah, 1943, 1951, 1955. (On leave for work with National Science Foundation.)
- Mary Alice Cook** Special Instructor in Nursing (1959)
B.S., Brigham Young University, 1956.
- D'Monte W. Coombs** Instructor in Civil Engineering (1959)
B.S., Utah State University, 1941; M.S., University of Utah, 1949.
- Ivan L. Corbridge** Associate Professor of Economics (1952)
B.A., Utah State University, 1946; M.S., University of Chicago, 1948; Ph.D., Washington State College, 1952.
- Stephen R. Covey** Assistant Professor of Business Management (1957)
B.S., University of Utah, 1953; M.B.A., Harvard Graduate School of Business Administration, 1957.
- Soren F. Cox** Instructor in English (1955)
B.A., M.A., Brigham Young University, 1952, 1956.

- Marshall R. Craig** Assistant Professor of English (1953)
B.S., Brigham Young University, 1941; M.A., Columbia University, 1947.
- Lars G. Crandall** Assistant Professor of Business Education
and Office Management (1944)
B.S., M.S., Brigham Young University, 1944, 1945.
- John K. Crnkovic** Assistant Director of the Laboratory Schools for
Curriculum and Teaching; Assistant Professor of Education (1957)
B.A., Willamette University, 1930; M.A., University of Michigan, 1940; Ed.D., Arizona
State University, 1956.
- Earl C. Crockett** Vice-President; Professor of Economics
B.S., University of Utah, 1927; Ph.D., University of California, 1931.
- Evan M. Croft** Associate Professor of Business Education
and Office Management (1936)
B.S., Brigham Young University, 1929; M.S., University of Southern California, 1940.
- David M. Crowton** Instructor in Physical Education; Assistant Coach (1937)
B.S., Brigham Young University, 1938.
- Robert M. Cundick** Assistant Professor of Music (1957)
B.F.A., M.F.A., Ph.D., University of Utah, 1949, 1950, 1955.
- Brandt B. Curtis** Instructor in Music (1955)
B.A., Brigham Young University, 1953; M.Mus., Indiana University, 1955.
- Delva Daines** Associate Professor of Education (1955)
B.S., M.S., Utah State University, 1940, 1947; Ed.D., State College of Washington,
1956.
- Alexander B. Darais** Instructor in Art (1954)
B.S., Brigham Young University, 1948; M.F.A., Claremont Graduate School, 1952.
- J. Kenneth Davies** Assistant Professor of Economics (1953)
B.S., Marquette University, 1948; M.S., Brigham Young University, 1950; Ph.D., Uni-
versity of Southern California, 1959.
- Glenn C. Davis** Instructor in Journalism (1959)
B.S., Brigham Young University, 1955; M.S., University of Illinois, 1957.
- John R. Davis** Assistant Professor of Business Management (1958)
B.S., Brigham Young University, 1941; M.B.A., Stanford Graduate School of Business,
1951.
- Evelyn A. Day** Instructor in Homemaking Education (1956)
B.S., Utah State University, 1945; M.S., Oregon State College, 1960.
- Edwin Dean** Assistant Professor of Mathematics (1949)
B.S., M.S., Brigham Young University, 1947, 1952; M.S., University of Michigan,
1955.
- Daniel Decker** Assistant Professor of Physics (1958)
B.S., M.S., Brigham Young University, 1953, 1955; Ph.D., University of Illinois, 1958.
- Harry C. Dees** Instructor in Library (1959)
B.A., Brigham Young University, 1949; M.A., University of California, 1950.
- Gerrit de Jong, Jr.** Professor of Modern Languages; Dean Emeritus,
College of Fine Arts (1925)
B.A., M.A., University of Utah, 1920, 1925; Ph.D., Stanford University, 1933.
- Stanford D. DeMille** Instructor in Business Education and
Office Management (1957)
B.S., Brigham Young University, 1950.
- Dwight R. Dixon** Assistant Professor of Physics (1959)
B.S., Utah State University, 1942; Ph.D., University of California, 1955.
- Fred W. Dixon** Assistant Professor of Physical Education;
Tennis and Golf Coach (1928)
B.S., M.S., Brigham Young University, 1926, 1939.

- Owen G. Dixon** Instructor in Physical Education;
Assistant Football Coach (1947)
B.S., Brigham Young University, 1946.
- Mignon Domgaard** Instructor in Clothing and Textiles (1954)
B.S., Utah State University, 1943; M. of H.E., Oregon State College, 1954.
- David M. Donaldson** Associate Professor of Bacteriology (1955)
B.S., M.S., Ph.D., University of Utah, 1950, 1952, 1954.
- G. Byron Done** Professor of Religion (1956)
B.A., University of Utah, 1928; M.A., Ph.D., University of Southern California, 1937, 1939.
- *Lester N. Downing** Associate Professor of Personnel and Guidance (1954)
B.S., M.S., Utah State University, 1947, 1949; Ed.D., Colorado State College of Education, 1951. (On leave for post-doctoral study.)
- Roy W. Doxey** Assistant Professor of Religion (1948)
B.A., M.A., George Washington University, 1938, 1940.
- Willard B. Doxey** Assistant Professor of Economics (1956)
B.S., M.S., University of Utah, 1937, 1947; Ph.D., University of California (Berkeley), 1956.
- J. Duane Dudley** Assistant Professor of Physics (1956)
B.S., Brigham Young University, 1952; M.A., Rice Institute, 1953.
- Claude B. Duerden** Assistant Professor of Health Education (1958)
B.S., University of Utah, 1950; M.P.H., University of California (Berkeley), 1954.
- Noel H. Duerden** Special Instructor in Journalism (1959)
B.S., Northwestern University, 1958.
- Keith E. Duke** Assistant Professor of Geography (1956)
B.A., University of California at Los Angeles, 1947; Docteur de l'Univ., Université de Bordeaux, France, 1950.
- Captain Gerald J. Dye** Assistant Professor of Air Science (1957)
B.S., Utah State University, 1949; M.Ed., Miami University, Oxford, Ohio, 1954.
- William G. Dyer** Associate Professor of Sociology (1955)
B.A., M.A., Brigham Young University, 1950, 1952; Ph.D., University of Wisconsin, 1955.
- Leo B. Eager** Instructor in Economics (1959)
B.S.E.E., University of Utah, 1957; M.B.A., University of Michigan, 1959.
- *Don L. Earl** Associate Professor of Music (1946)
B.A., M.A., Brigham Young University, 1940, 1947; Ph.D., Indiana University, 1952.
(On leave for post-doctoral study.)
- E. John Eastmond** Professor of Physics (1951)
B.A., Brigham Young University, 1937; Ph.D., University of California (Berkeley), 1943.
- Jefferson N. Eastmond** Associate Professor of Educational
Administration (1956)
B.S., M.S., Brigham Young University, 1947, 1948; Ed.D., Teachers College, Columbia University, 1950.
- *Blaine E. Edlefsen** Instructor in Music (1953)
B.A., Brigham Young University, 1952; M.Mus., Eastman School of Music, University of Rochester, 1953. (On leave for further graduate study at Eastman School of Music.)
- Robert L. Egbert** Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1947, 1948; Ph.D., Cornell University, 1949.
- Richard Grant Ellsworth** Assistant Professor of English (1958)
B.A., M.A., Brigham Young University, 1951, 1952; Ph.D., University of Maryland, 1958.
- LaMar T. Empey** Associate Professor of Sociology (1955)
B.S., M.S., Brigham Young University, 1951, 1952; Ph.D., Washington State University, 1955.

- * **David L. Evans** Instructor in English (1954)
B.A., Idaho State College, 1948; M.A., University of Utah, 1953. (On leave for graduate study at University of Utah.)
- * **Dean B. Farnsworth** Professor of English (1953)
B.A., M.A., University of Utah, 1946, 1947; Ph.D., University of California (Berkeley), 1950. (On leave for post doctoral work.)
- Raymond B. Farnsworth** Professor of Agronomy (1946)
B.S., Brigham Young University, 1937; M.S., Massachusetts State College, 1938; Ph.D., Ohio State University, 1941.
- * **M. Charles Faux** Assistant Professor of Business Management (1957)
B.S., University of Utah, 1952; M.B.A., Harvard Graduate School of Business Administration, 1954. (On leave for graduate study.)
- Lawrence Fearnley** Assistant Professor of Mathematics (1957)
B.S., London University, 1953; Ph.D., University of Utah, 1959.
- Paul E. Felt** Assistant Professor of Religion (1957)
B.A., Brigham Young University, 1942; M.S., University of Utah, 1954.
- Hal G. Ferguson** Instructor in Sociology (1959)
B.A., M.A., Brigham Young University, 1954, 1957.
- * **R. Kent Fielding** Assistant Professor of History (1952)
B.S., M.S., Brigham Young University, 1950, 1952; Ph.D., Indiana University, 1957. (On leave for post-doctoral research and writing.)
- Bliss B. Finlayson** Instructor in Clothing and Textiles (1959)
B.S., Brigham Young University, 1957; M.S., Cornell University, 1959.
- D. Allen Firmage** Associate Professor of Engineering (1955)
B.S.C.E., University of Utah, 1940; M.S., Massachusetts Institute of Technology, 1941.
- Albert L. Fisher** Associate Professor of Geography (1954)
B.S., University of Utah, 1951; M.A., Ph.D., Johns Hopkins University, 1952, 1954.
- Chad J. Flake** Instructor in Library Science (1953)
B.A., Brigham Young University, 1953; M.A., University of Denver, 1955.
- * **Royce P. Flandro** Assistant Professor of Education (1953)
B.S., M.S., University of Utah, 1948, 1950; Ed.D., University of Indiana, 1957. (On leave with United States Operations Mission in Iran.)
- Harvey Fletcher** Professor of Physics (1952)
B.S., Brigham Young University, 1907; Ph.D., Chicago University, 1911; hon.Sc.D., Columbia University, 1935; hon.Sc.D., Kenyon College, 1942; hon.Sc.D., Stevens Institute of Technology, 1942; hon. Sc.D., Case School of Applied Sciences, 1942; hon. Sc.D., University of Utah, 1944; hon.Sc.D., Brigham Young University, 1954.
- Harvey J. Fletcher** Associate Professor of Mathematics (1953)
B.S., Massachusetts Institute of Technology, 1944; M.S., California Institute of Technology, 1948; Ph.D., University of Utah, 1954.
- Dean K. Fuhrman** Professor of Engineering (1954)
B.S., M.S., Utah State University, 1941, 1950; Ph.D., University of Wisconsin, 1952.
- LaVell C. Gamett** Assistant Professor of Industrial Arts (1946)
B.S., Brigham Young University, 1935; M.S., University of Oregon, 1951.
- B. Delworth Gardner** Assistant Professor of Economics (1959)
B.S., M.S., University of Wyoming, 1952, 1954; Ph.D., University of Chicago, 1960.
- Charles N. Gardner** Instructor in Mechanical Engineering (1957)
B.S., University of California (Berkeley), 1943.
- Elizabeth L. Gardner** Instructor in Clothing and Textiles and in Housing and Design (1952)
B.S., Utah State University, 1948; M.S., University of California at Los Angeles, 1954.
- John H. Gardner** Professor of Physics (1949)
B.S., Utah State University, 1943; M.A., Ph.D., Harvard University, 1947, 1950.
- Crawford Gates** Associate Professor of Music (1948)
B.A., San Jose State College, 1944; M.A., Brigham Young University, 1948; Ph.D., Eastman School of Music, University of Rochester, 1954.

- David D. Geddes** Assistant Professor of Physical Education and Health (1952)
B.S., M.S., Brigham Young University, 1950, 1952; Ph.D., University of Southern California, 1959.
- O. Norman Geertsens** Assistant Professor of Physics (1941)
B.S., Brigham Young University, 1930; M.S., University of California at Los Angeles, 1951.
- Eileen Gibbons** Special Instructor in English (1959)
B.S., Utah State University, 1953.
- M. Carl Gibson** Assistant Professor of Modern and
Classical Languages (1949)
B.A., M.A., Brigham Young University, 1947, 1949.
- Lt. Colonel William J. Gibson** Professor of Air Science (1959)
B.S., Utah State University, 1948.
- Preston R. Gledhill** Associate Professor of Speech (1947)
Degré Supérieur, La Sorbonne, 1938; B.A., Brigham Young University, 1939; M.A., Louisiana State University, 1940; Ph.D., University of Wisconsin, 1951.
- J. Rex Goates** Professor of Chemistry (1947)
B.S., Brigham Young University, 1942; Ph.D., University of Wisconsin, 1947.
- Nan Osmond Grass** Instructor in English (1951)
B.A., Brigham Young University, 1930; M.A., Stanford University, 1954.
- Lue S. Groesbeck** Instructor in Music (1957)
B.A., Brigham Young University, 1948.
- Stewart L. Grow** Professor of History and Political Science (1947)
B.S., M.S., Brigham Young University, 1935, 1948; Ph.D., University of Utah, 1954.
- Clark J. Gubler** Associate Professor of Chemistry (1958)
B.A., Brigham Young University, 1939; M.A., Utah State University, 1941; Ph.D., University of California, 1945; Established Investigator of the American Heart Association, 1960.
- Donworth Gubler** Instructor in Modern Languages (1954)
B.A., M.A., Brigham Young University, 1948, 1949.
- *Norman Gulbrandsen** Assistant Professor of Music (1951)
B.S., University of Utah, 1942; M.M., Northwestern University, 1948. (On leave for further graduate study at Northwestern University.)
- Richard L. Gunn** Associate Professor of Art and Education (1948)
B.S., M.S., Brigham Young University, 1947, 1950; Ed.D., Stanford University, 1955.
- Fred E. Guymon** Instructor in Business Education and
Office Management (1955)
B.S., University of Utah, 1948; M.E., University of Cincinnati, 1951.
- LeRoy R. Hafen** Professor of History (1954)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1919; Ph.D., University of California, 1924; Litt.D., University of Colorado, 1935.
- William J. Hafen** Instructor in Recreation; Director of Intramurals (1954)
B.S., Brigham Young University, 1950; M.A., State College of Washington, 1953.
- Richard W. Hales** Associate Professor of Physics (1952)
B.S., Iowa State College, 1946; Ph.D., University of California, 1952.
- Wayne B. Hales** Professor of Physics and Mathematics;
Dean of General College (1930)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1922; Ph.D., California Institute of Technology, 1926.
- S/Sgt. George M. Hall** Instructor in Air Sciences (1958)
- H. Tracy Hall** Professor of Chemistry; Director of the
Research Division (1955)
B.S., M.S., Ph.D., University of Utah, 1942, 1943, 1948.
- Merrill J. Hallam** Associate Professor of Agronomy; Acting Dean of
College of Biological and Agricultural Sciences (1952)
B.A., Brigham Young University, 1950; Ph.D., Iowa State College, 1952.

- *John R. Halliday** Professor of Music (1936)
B.A., M.A., Brigham Young University, 1935, 1936; Ph.D., Eastman School of Music, University of Rochester, 1941. (On leave for post-doctoral research and study.)
- Lawson D. Hamblin** Assistant Professor of Library Science (1948)
B.A., Brigham Young University, 1938; LL.B., Washington College of Law, 1948.
- George H. Hansen** Professor of Geology and Geography (1927)
B.S., Utah State University, 1918; M.S., Ph.D., George Washington University, 1925, 1927.
- Harold I. Hansen** Professor of Speech (1952)
B.S., Utah State University, 1937; M.A., Ph.D., State University of Iowa, 1940, 1949.
- Ralph W. Hansen** Instructor in Library Science (1953)
B.A., M.A., Brigham Young University, 1951, 1954.
- Wilford Nels Hansen** Assistant Professor of Chemistry (1958)
B.S., Brigham Young University, 1950; Ph.D., Iowa State College, 1956.
- Kenneth R. Hardy** Associate Professor of Psychology (1954)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., University of Michigan, 1954.
- James M. Harris** Assistant Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1952, 1953; Ph.D., Cornell University, 1955.
- John B. Harris** Instructor in English (1958)
B.A., M.A., Brigham Young University, 1955, 1956.
- Bertrand F. Harrison** Professor of Botany (1929)
B.A., M.S., Brigham Young University, 1930, 1931; Ph.D., University of Chicago, 1937.
- Charles J. Hart** Professor of Recreation and of Physical and Health Education; Assistant to the Dean of the College of Physical Education (1925)
B.S., Utah State University, 1922; M.A., Ed.D., New York University, 1932, 1945.
- Edward L. Hart** Professor of English (1952)
B.S., University of Utah, 1939; M.A., University of Michigan, 1941; D.Phil., Oxford University (England), 1950.
- Milton F. Hartvigsen** Professor of Physical Education; Dean of the College of Physical Education (1956)
B.S., M.Ed., Utah State University, 1930, 1939; Ed.D., University of California at Los Angeles, 1956.
- *Floyd E. Haupt** Instructor in Mathematics (1954)
B.S., M.S., University of Arizona, 1947, 1948. (On leave for employment in industry.)
- Richard T. Hawkins** Assistant Professor of Chemistry (1959)
B.A., Brigham Young University, 1951; Ph.D., University of Illinois, 1959.
- C. Lynn Hayward** Professor of Zoology (1930)
B.S., M.S., Brigham Young University, 1927, 1931; Ph.D., University of Illinois, 1941.
- Alma Heaton** Assistant Professor of Recreation (1953)
B.S., M.S., Utah State University, 1950, 1951.
- Israel C. Heaton** Professor of Recreation (1956)
B.S., M.S., Utah State University, 1940, 1941; Re.D., University of Indiana, 1955.
- Charles A. Henson** Special Instructor in Speech (1958)
B.S., M.S., Brigham Young University, 1957, 1959.
- Richard H. Henstrom** Instructor in Speech (1957)
B.F.A., M.F.A., University of Utah, 1949, 1953.
- Karl P. Herde, Jr.** Instructor in Business Education and Office Management (1957)
B.S., M.S., Brigham Young University, 1949, 1956.
- Dustin H. Heuston** Special Instructor in English (1959)
B.A., Hamilton College, 1954; M.A., Stanford University, 1959.

- Armin J. Hill** Professor of Physics; Dean of the College of Physical and Engineering Sciences (1957)
B.S., M.S., Montana State College, 1932, 1938; M.S., Ph.D., California Institute of Technology, 1949, 1950.
- L. Douglas Hill** Special Instructor in English (1959)
B.S., Brigham Young University, 1954.
- Max W. Hill** Assistant Professor of Physics (1958)
B.A., Brigham Young University, 1954; Ph.D., University of California, 1959.
- *Kenneth L. Hillam** Instructor in Mathematics (1957)
B.S., M.S., University of Utah, 1949, 1956. (On leave for further graduate study at the University of Colorado.)
- Lynn M. Hilton** Associate Professor of Education (1953)
B.S., M.S., University of Utah, 1950; Ph.D., University of Chicago, 1952.
- Lehi F. Hintze** Associate Professor of Geology (1955)
B.A., University of Utah, 1941; M.A., Ph.D., Columbia University, 1949, 1951.
- Cynthia C. Hirst** Instructor in Physical Education (1948)
B.A., University of Utah, 1947; M.S., University of Washington, 1952.
- Harry Hodson** Professor of Civil Engineering (1953)
B.Sc., B.E., University of Sidney, 1938, 1940.
- Leona Holbrook** Professor of Physical Education (1937)
B.S., University of Utah, 1929; M.A., Ed.D., Columbia University, 1935, 1950.
- Clarence J. Holtkamp** Special Instructor in Industrial Education (1959)
B.S., University of New Mexico, 1949.
- Shirl J. Hone** Instructor in Mathematics (1959)
B.S., Utah State University, 1949; M.S., Northwestern University, 1952.
- Keith H. Hoopes** Assistant Professor of Animal Husbandry (1957)
B.S., Utah State University, 1957; D.V.M., State College of Washington, 1956.
- Ethel Lee Horner** Instructor in Food and Nutrition (1953)
B.S., University of Utah, 1946.
- A. Burt Horsley** Assistant Professor of Philosophy and Religion (1956)
B.A., M.A., Brigham Young University, 1945, 1954; Dd.P., Münster University, 1955; Ph.D., Westphalian Welhelms Universität, Münster, Germany, 1956.
- Frank Horton** Instructor in English (1955)
B.A., Brigham Young University, 1951; M.A., University of Southern California, 1957.
- William A. Hoskisson** Assistant Professor of Bacteriology (1957)
B.S., M.S., Utah State University, 1938, 1941; Ph.D., University of Illinois, 1944.
- Alice E. Howe** Special Instructor in English (1959)
B.A., M.A., Brigham Young University, 1958, 1959.
- Robert J. Howell** Associate Professor of Psychology (1952)
B.A., M.A., Ph.D., University of Utah, 1948, 1949, 1951.
- Darcus D. Hyde** Instructor in English (1957)
B.A., Brigham Young University, 1956.
- Paul V. Hyer** Assistant Professor of History (1957)
B.A., Brigham Young University, 1951; M.A., University of California, 1953.
- Scott S. Hymas** Instructor in English (1958)
B.A., Brigham Young University, 1955; M.A., Western Reserve University, 1958.
- Reed M. Izatt** Assistant Professor of Chemistry (1956)
B.S., Utah State University, 1951; Ph.D., Pennsylvania State University, 1954.
- Briant S. Jacobs** Professor of English (1946)
B.A., Brigham Young University, 1939; Ph.D., State University of Iowa, 1944.
- Phyllis C. Jacobson** Instructor in Physical Education for Women (1957)
B.S., M.S., Utah State University, 1953, 1954.

- M. Wells Jakeman** Professor of Archaeology (1946)
B.A., University of Utah, 1931; M.A., University of Southern California, 1932; Ph.D., University of California, 1938.
- Martha R. Jenny** Associate Professor of Nursing (1952)
Diploma, Presbyterian Hospital School of Nursing, Chicago, 1926; B.S., Teachers College, Columbia University, 1939; M.S., University of Wisconsin, 1946.
- De Lamar Jensen** Assistant Professor of History (1957)
B.A., Brigham Young University, 1952; M.A., Ph.D., Columbia University, 1953, 1957.
- Mary B. Jensen** Instructor in Physical Education and Recreation (1953)
B.A., Park College of Missouri, 1939.
- Vern H. Jensen** Assistant Professor of Personnel and Guidance (1949)
B.S., M.S., Brigham Young University, 1948, 1950; Ed.D., University of Colorado, 1957.
- Lucille N. Jensen** Instructor in Human Development and Family Relationships (1956)
B.S., University of Utah, 1951; M.S., Kansas State College, 1956.
- Gloria D. Jenson** Instructor in Library Science (1954)
B.S., Brigham Young University, 1950; M.S., Columbia University, 1954.
- Ernest C. Jepps** Professor of Industrial Education (1959)
B.S., Utah State University, 1926; M.S., Colorado State University, 1938.
- J. Lorin Jex** Assistant Professor of Speech (1949)
B.A., M.A., Brigham Young University, 1947, 1950.
- Franz M. Johansen** Instructor in Art (1956)
B.A., Brigham Young University, 1955.
- Deon Johnson** Instructor in Physical Education (1959)
B.S., Utah State University, 1954; M.S., Brigham Young University, 1959.
- Eldred A. Johnson** Associate Professor of Accounting (1955)
B.A., M.A., Brigham Young University, 1949, 1950; C.P.A., California, 1952.
- *Garth N. Jones** Assistant Professor of Political Science (1953)
B.S., Utah State University, 1947; M.S., Ph.D., University of Utah, 1948, 1954. (On leave to accept position as public administration education officer, United States International Cooperative Administration in Indonesia.)
- *Jens J. Jonsson** Professor of Electrical Engineering (1953)
B.S.G.E., B.S.E.E., University of Utah, 1944, 1946; M.S.E.E., Ph.D., Purdue University, 1947, 1951. (On leave for post-doctoral research and study.)
- Eleanor Jorgensen** Assistant Professor of Clothing and Textiles (1949)
B.S., Brigham Young University, 1946; M.S., Kansas State College, 1954.
- Edgar Karst** Assistant Professor of Mathematics (1958)
B.S., University of Gottingen, Germany, 1938; M.S., University of Breslau, Germany, 1942.
- Joseph J. Keeler** Assistant Professor of Music; University Organist (1935)
B.S., M.A., Brigham Young University, 1940, 1950.
- C. Rodney Kimball** Instructor in Physical Education and Health (1937)
B.S., Brigham Young University, 1955.
- Edwin R. Kimball** Professor of Physical Education (1935)
B.S., Brigham Young University, 1926; M.S., University of Southern California, 1935; Ed.D., University of Oregon, 1955.
- Alma W. King** Assistant Professor of Religion (1956)
B.S., M.S., Brigham Young University, 1930, 1936.
- Francis Kirkham** Special Instructor in Religious Instruction (1959)
B.A., University of Michigan, 1906; LL.B., University of Utah, 1913; Ph.D., University of California, 1930.
- Hattie M. Knight** Assistant Professor of Library Science (1941)
B.S., Brigham Young University, 1941; B.S., in L.S., University of Denver, 1943; M.S., in L.S., George Peabody College for Teachers, 1951.

- Marion Kohler** Assistant Professor of Nursing (1954)
Diploma, Salt Lake General Hospital, 1943; B.S., Brigham Young University, 1951;
M.N., University of Washington, 1957.
- Mary A. Krider** Associate Professor of Educational Psychology (1954)
B.A., University of Nebraska, 1927; Ed.M., University of Oklahoma, 1940; Ed.D.,
Wayne State University, 1959.
- Jean T. Kunz** Instructor in Human Development and Family
Relationships (1957)
B.S., University of Idaho, 1940; M.A., George Peabody College, 1956.
- A. Dean Larsen** Instructor in Library Science (1956)
B.S., Brigham Young University, 1954.
- *Don H. Larsen** Associate Professor of Bacteriology (1952)
B.S., Brigham Young University, 1940; M.A., University of Nebraska, 1942; Ph.D.,
University of Utah, 1950. (On leave for post doctoral research and study.)
- Vernon W. Larsen** Associate Professor of Sociology (1952)
B.A., M.A., Brigham Young University, 1949, 1950; Ph.D., Cornell University, 1957.
- Clinton F. Larson** Associate Professor of English (1947)
B.A., M.A., University of Utah, 1943, 1947; Ph.D., University of Denver, 1956.
- Gustive O. Larson** Assistant Professor of Church History and
Philosophy (1954)
B.A., M.A., University of Utah, 1920, 1926.
- Reuben D. Law** Professor of Education (1936)
B.S., M.S., Utah State University, 1928, 1933; Ed.D., University of Southern California,
1941.
- Harold R. Laycock** Assistant Professor of Music (1949)
B.A., M.A., Brigham Young University, 1937, 1947.
- Ralph G. Laycock** Assistant Professor of Music (1953)
B.A., Brigham Young University, 1941; M.S., Juilliard School of Music, N.Y.C., 1948.
- Robert L. Layton** Assistant Professor of Geography (1954)
B.S., M.S., University of Utah, 1951, 1952.
- Allen D. Le Baron** Instructor in Economics (1959)
B.S., University of Utah, 1956.
- Harold W. Lee** Professor of Modern Languages (1937)
B.A., M.A., Brigham Young University, 1938, 1940; Ph.D., Stanford University, 1946.
- Stella Dixon Lewis** Instructor in Housing and Home Management (1956)
B.S., Brigham Young University, 1938.
- Wesley P. Lloyd** Professor of Personnel and Guidance;
Dean of Graduate School (1935)
B.S., M.S., Brigham Young University, 1927, 1934; Ph.D., University of Chicago, 1937.
- Lester Long** Special Instructor in Industrial Education (1959)
B.S., Brigham Young University, 1958.
- Howard D. Lowe** Professor of Finance and Banking (1947)
B.S., M.A., Utah State University, 1945, 1948; C.P.A., Utah, 1949; D.B.A., Indiana
University, 1957.
- Daniel H. Ludlow** Associate Professor of Religion (1955)
B.S., Utah State University, 1946; M.S., Indiana University, 1953; Ed.D., Columbia
University, 1955.
- Ross "J" McArthur** Assistant Professor of Industrial Arts (1956)
B.S., M.S., Utah State University, 1949, 1953; Ed.D., University of Missouri, 1955.
- Cleo McCracken** Instructor in Personnel and Guidance (1954)
B.S., Utah State University, 1937; M.A., Syracuse University, 1951.
- Major Donald E. McCulloch** Assistant Professor of Air Science (1960)
M.Ed., Columbia University, 1957.

- *John E. McKendrick** Assistant Professor of English (1953)
B.A., M.A., University of Utah, 1942, 1949. (On leave for graduate study.)
- Lynn A. McKinlay** Instructor in Speech (1955)
Certificate, Post Graduate Certificate, Pasadena Community Playhouse, College of
Theatre Arts, 1936, 1937.
- Max E. McKinnon** Instructor in Industrial Arts (1957)
B.S., M.S., Utah State University, 1949, 1954.
- Kent H. McKnight** Associate Professor of Botany (1947)
B.S., M.S., Brigham Young University, 1948, 1952; Ph.D., University of Michigan,
1955.
- Delbert H. McNamara** Associate Professor of Physics (1955)
B.S., Ph.D., University of California (Berkeley), 1947, 1950.
- C. Craig McNeil** Special Instructor in English (1959)
B.S., Brigham Young University, 1955.
- Walter E. McPhie** Assistant Professor of Education (1959)
B.S., Utah State University, 1952; M.A., University of Utah, 1953; Ed.D., Stanford
University, 1959.
- Melvin P. Mabey** Assistant Professor of History and Political Science (1955)
B.S., M.A., Brigham Young University, 1947, 1953; D. Phil., Oxford University (Eng-
land), 1955.
- Harold S. Madsen** Instructor in English (1957)
B.A., University of Utah, 1953.
- Truman G. Madsen** Assistant Professor of Philosophy and Religion (1957)
B.S., M.S., University of Utah, 1951, 1952; A.M., Ph.D., Harvard University, 1957,
1960.
- Francis R. Magleby** Instructor in Art (1959)
B.S., M.S., Brigham Young University, 1950, 1951.
- Robert P. Manookin** Instructor in Library (1959)
B.A., Brigham Young University, 1955; M.Mus., University of Illinois, 1959.
- Milton Marshall** Professor of Physics (1919)
B.A., Brigham Young University, 1918; Ph.D., University of Chicago, 1924.
- Daniel L. Martino** Associate Professor of Music (1956)
B.S., M.A., University of Minnesota, 1938, 1945.
- W. Annette Massey** Assistant Professor of Nursing (1959)
B.S., University of Pennsylvania, 1948; M.S., Yale University, 1959.
- Conan E. Mathews** Professor of Art; Dean of the
College of Fine Arts (1956)
B.A., College of Idaho, 1936; M.F.A., University of Utah, 1950.
- Merlin J. Mecham** Associate Professor of Speech (1954)
B.A., Brigham Young University, 1948; M.S., Utah State University, 1949; Ph.D.,
Ohio State University, 1954.
- Richard L. Meibos** Instructor in Chemistry (1955)
B.A., Brigham Young University, 1952.
- *J. Keith Melville** Assistant Professor of Political Science (1957)
B.A., University of Utah, 1947; M.A., University of California, 1949; Ph.D., University
of Utah, 1956. (On leave for post doctoral research and study.)
- Evan J. Memmott** Instructor in Education (1955)
B.S., M.S., Utah State University, 1950, 1952; M.S., Indiana University, 1953.
- Keith H. Meservy** Instructor in Religion (1958)
B.A., Brigham Young University, 1951.
- Carol Michie** Special Instructor in Speech (1959)
B.S., Brigham Young University, 1959.
- Seymour Mikkelsen** Instructor in Animal Husbandry (1956)
B.S., Brigham Young University, 1948.

- Martin L. Miller** Assistant Professor of Physics and Mathematics (1942)
B.A., M.A., Brigham Young University, 1942, 1950.
- Marion Millett** Assistant Professor of Geography (1958)
B.A., University of Southern California, 1954; M.A., University of Colorado, 1956.
- Albert O. Mitchell** Professor of Speech and Dramatic Arts (1956)
B.S., M.S., University of Utah, 1933, 1935; Ph.D., University of Wisconsin, 1938.
- Hal D. Mitchell** Instructor in Physical Education (1959)
B.S., University of California (Los Angeles), 1953.
- Olive K. B. Mitchell** Instructor in English (1947)
B.A., University of Arizona, 1932; M.A., Brigham Young University, 1934.
- Rudy Moe** Instructor in Physical Education (1959)
B.A., Concordia College, Moorhead, Minnesota, 1953.
- J. C. Moffitt** Professor of Educational Administration and Special Consultant
to the Department of Educational Administration (1953)
B.S., M.S., Brigham Young University, 1926, 1929; Ph.D., University of Chicago, 1940.
- J. Weldon Moffitt** Assistant Professor of Psychology (1953)
B.S., Brigham Young University, 1949; M.S., University of Utah, 1950; Ph.D., University of Illinois, 1952.
- Darrel J. Monson** Associate Professor of Electrical Engineering (1956)
B.S., University of Utah, 1943; M.S., University of California (Berkeley), 1952.
- Samuel C. Monson** Associate Professor of English (1952)
B.S., Utah State University, 1941; M.A., Ph.D., Columbia University, 1948, 1953.
- Glen Moore** Assistant Professor of Botany (1958)
B.S., M.S., Brigham Young University, 1949, 1950; Ph.D., University of Chicago, 1953.
- Alonzo J. Morley** Professor of Speech (1928)
B.A., M.A., Brigham Young University, 1925, 1931; Ph.D., University of Iowa, 1935.
- Jeannette Morrell** Instructor in English (1956)
B.A., M.A., University of Utah, 1933, 1935.
- *A. Reed Morrill** Professor of Educational Administration (1948)
B.S., M.S., Brigham Young University, 1928, 1937; Ed.D., University of Oregon, 1948.
(On leave with United States Operations Mission in Iran.)
- Lawrence Morris** Professor of Animal Husbandry (1952)
B.S.A., University of Arizona, 1925; M.S., Texas A. & M., 1928; Ph.D., Louisiana State University, 1938.
- Sadie O. Morris** Professor of Food and Nutrition (1957)
B.S., M.S., Utah State University, 1921, 1922; Ph.D., Columbia University, 1933.
- J. Richard Murdock** Assistant Professor of Botany (1952)
B.S., M.S., Brigham Young University, 1949, 1951; Ph.D., State College of Washington, 1957.
- William V. Nash** Instructor in Library Science (1957)
B.A., Brigham Young University, 1950; M.S., University of Illinois, 1957.
- Glen T. Nelson** Professor of Economics (1954)
B.S., M.S., Utah State University, 1942, 1948; Ph.D., University of Illinois, 1950.
- K. LeRoi Nelson** Associate Professor of Chemistry (1956)
B.S., Utah State University, 1948; Ph.D., Purdue University, 1952.
- H. Mark Nelson** Assistant Professor of Physics (1959)
B.S., M.S., Brigham Young University, 1953, 1954; Ph.D., Harvard University, 1959.
- Hugh W. Nibley** Professor of History and Religion (1946)
B.A., University of California at Los Angeles, 1934; Ph.D., University of California, 1938.
- Henry J. Nicholes** Associate Professor of Health Education (1946)
B.A., Brigham Young University, 1935; M.S., Ph.D., University of Wisconsin, 1939, 1941.

- Joseph K. Nicholes** Professor of Chemistry (1933)
B.A., Brigham Young University, 1916; M.A., Stanford University, 1924.
- Fred K. Nielsen** Instructor in Religious Instruction (1956)
B.A., M.A., Harvard University, 1954, 1955.
- Eve Nielson** Instructor in Library Science (1949)
B.S., Utah State University, 1945; M.S., University of Southern California, 1959.
- Howard C. Nielson** Associate Professor of Economics (1957)
B.S., University of Utah, 1947; M.S., University of Oregon, 1949; M.B.A., Ph.D., Stanford University, 1956, 1957.
- Lorna R. Nielson** Instructor in English (1959)
B.A., Brigham Young University, 1956.
- Quentin R. Nordgren** Assistant Professor of Music (1955)
B.A., M.A., Brigham Young University, 1942, 1950; Ph.D., Indiana University, 1955.
- Keith R. Oakes** Professor of Educational Administration (1957)
B.S., M.S., Utah State University, 1940, 1948; Ed.D., University of Southern California, 1954.
- Clinton L. Oaks** Associate Professor of Business Management (1957)
B.A., Brigham Young University, 1948; M.B.A., Ph.D., Stanford University, 1950, 1955.
- J. Lloyd Olpin** Assistant Professor of Mathematics (1955)
B.S., Brigham Young University, 1925; M.S., Colorado University, 1938.
- Ernest L. Olson** Assistant Professor of English (1953)
B.A., M.A., University of Utah, 1948, 1949.
- *John E. Ord** Assistant Professor of Education (1957)
B.S., Utah State University, 1940; M.S., University of Utah, 1949; Ed.D., Stanford University, 1958. (On leave with United States Operations Mission in Iran.)
- Scott G. Orrock** Instructor in Personnel and Guidance (1953)
B.A., M.A., Brigham Young University, 1952, 1953.
- Shirlene Oswald** Special Instructor in Physical Education (women) (1958)
B.S., Brigham Young University, 1958.
- Glen F. Ovard** Assistant Professor of Educational Philosophy (1958)
B.S., M.S., Brigham Young University, 1949, 1954; Ed.D., Stanford University, 1958.
- Joseph Owens** Curator in Geology (1957)
B.S., Brigham Young University, 1957.
- Thane J. Packer** Associate Professor of Youth Leadership (1959)
B.S., Utah State University, 1939.
- Kathryn B. Pardoe** Assistant Professor of Speech (1947)
B.A., Brigham Young University, 1934.
- Clyde A. Parker** Associate Professor of Personnel and Guidance (1953)
B.S., M.S., Brigham Young University, 1952; Ph.D., University of Minnesota, 1957.
- Robert C. Patch** Assistant Professor of Religion (1959)
B.A., University of New Mexico, 1945; M.A., Brigham Young University, 1949.
- John W. Payne** Assistant Professor of Sociology (1947)
B.A., M.A., Brigham Young University, 1936, 1948.
- Glenn Pearson** Assistant Professor of Religion (1951)
B.S., Utah State University, 1949; M.A., Brigham Young University, 1951.
- Dean A. Peterson** Associate Professor of Business Education and
Office Management; Director of the Summer School (1942)
B.S., Brigham Young University, 1938; M.S., Ed.D., University of Southern California, 1942, 1959.
- Evan T. Peterson** Assistant Professor of Sociology (1959)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of Michigan, 1959.

- Hugh W. Peterson** Associate Professor of Chemistry (1927)
B.A., M.A., Brigham Young University, 1916, 1928; Ph.D., State University of Iowa, 1936.
- William Revell Phillips** Assistant Professor of Geology (1957)
B.S., M.S., Ph.D., University of Utah, 1950, 1951, 1954.
- Guy Pierce** Assistant Professor of Industrial Arts (1953)
B.S., Brigham Young University, 1953; M.S., University of Minnesota, 1956.
- Richard D. Poll** Professor of History and Political Science (1948)
B.A., M.A., Texas Christian University, 1938, 1939; Ph.D., University of California, (Berkeley), 1948.
- *J. Perry Polson** Assistant Professor of Business Education
and Office Management (1952)
B.S., M.S., University of Utah, 1947, 1952. (On leave for graduate study at University of California.)
- *Bill J. Pope** Associate Professor of Chemical Engineering (1958)
B.S., University of Utah, 1947; M.S., Ph.D., University of Washington, 1948, 1959.
(On leave for employment abroad.)
- Blaine M. Porter** Professor of Human Development and
Family Relationships (1955)
B.S., M.A., Brigham Young University, 1947, 1949; Ph.D., Cornell University, 1952.
- Norma Potter** Instructor in Nursing (1953)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1931; B.S., University of Utah, 1950.
- Virginia B. Poulson** Assistant Professor of Homemaking Education (1950)
B.S., Brigham Young University, 1931; M.Ed., Colorado A. & M., 1955.
- *Victor W. Purdy** Instructor in Library Science (1954)
B.S., Brigham Young University, 1952; M.S., Columbia University 1957. (On leave for graduate study.)
- Ellis T. Rasmussen** Assistant Professor of Religious Instruction (1951)
B.S., M.A., Brigham Young University, 1942, 1951.
- Lynn A. Ravsten** Instructor in Psychology (1957)
B.S., Brigham Young University, 1953; M.A., Stanford University, 1956.
- Edwin A. Read** Director of Laboratory Schools; Associate
Professor of Education (1959)
B.Ed., M.Ed., University of Alberta, 1948, 1949; Ed.D., University of Oregon, 1956.
- Eleanor K. Ream** Instructor in Food and Nutrition (1956)
B.A., Brigham Young University, 1954.
- Captain Garland L. Reasor** Assistant Professor of Air Science (1959)
- Jesse W. Reeder** Associate Professor of History and
Political Science (1952)
B.S., M.S., Utah State University, 1934, 1937; Ph.D., Cornell University, 1952.
- *Howard T. Reid** Professor of Personnel and Guidance;
Assistant Dean of Students (1953)
B.A., Brigham Young University, 1940; M.S., Ed.D., University of Southern California, 1947, 1949. (On leave for post-doctoral in-service training.)
- Ernest F. Reimschuessel** Assistant Professor of Horticulture
and Horticultural Specialties (1942)
B.A., M.S., Brigham Young University, 1940, 1951.
- Leonard W. Rice** Professor of English; Dean of College of
Humanities and Social Sciences (1942)
B.A., Brigham Young University, 1941; M.A., Ph.D., University of Washington, 1943, 1950.
- Naoma Rich** Assistant Professor of Library Science (1937)
B.S., Brigham Young University, 1931; Certificate in Library Science, Riverside Library Service School, 1932.

- *Owen S. Rich** Assistant Professor of Radio Speech (1950)
B.S., Brigham Young University, 1950; M.A., University of Southern California, 1953. (On leave for graduate study.)
- Russell R. Rich** Professor of Religious Instruction (1953)
B.S., Utah State University, 1936; M.A., Brigham Young University, 1949; Ed.D., University of Wyoming, 1955.
- Grant S. Richards** Associate Professor of Animal Husbandry (1945)
B.S., M.S., Utah State University, 1940, 1942.
- R. Neal Richards** Instructor in English (1958)
B.S., M.S., Brigham Young University, 1951, 1955.
- Jed J. Richardson** Instructor in Speech (1955)
B.S., M.S., Utah State University, 1950, 1955.
- Eldin Ricks** Assistant Professor of Religion (1949)
B.S., Brigham Young University, 1941; M.A., University of Southern California, 1949.
- Chauncey C. Riddle** Associate Professor of Religion and Philosophy (1952)
B.S., Brigham Young University, 1947; M.A., Columbia University, 1951; Ph.D., Columbia University, 1958.
- Ted E. Ridenhour** Special Instructor in English (1959)
B.A., Brigham Young University, 1957.
- J. Keith Rigby** Associate Professor of Geology (1953)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., Columbia University, 1952.
- Burton W. Robinson** Associate Professor of Clinical Psychology (1955)
B.S., M.S., Utah State University, 1951; Ph.D., Purdue University, 1954.
- Donald W. Robinson** Associate Professor of Mathematics (1956)
B.S., M.A., University of Utah, 1948, 1952; Ph.D., Case Institute of Technology, 1956.
- Clarence F. Robison** Assistant Professor of Physical and Health Education; Head Track Coach (1948)
B.S., Brigham Young University, 1949; M.S., University of Michigan, 1954.
- R. Max Rogers** Professor of Modern Languages (1945)
B.A., M.A., Brigham Young University, 1940, 1942; Ph.D., Stanford University, 1951.
- Carl W. Rollins** Instructor in Physical Education (1959)
B.S., M.S., University of Wyoming, 1949, 1950.
- Ralph L. Rollins** Associate Professor of Civil Engineering (1956)
B.S., M.S., Utah State University, 1941, 1949; Ph.D., Iowa State College, 1954.
- Antone K. Romney** Professor of Educational Psychology;
Dean of Students (1945)
B.S., M.S., Brigham Young University, 1933, 1934; Ed.D., Stanford University, 1947.
- Richard D. Sagers** Assistant Professor of Bacteriology (1958)
B.S., M.S., Brigham Young University, 1954, 1955; Ph.D., University of Illinois, 1958.
- Clyde D. Sandgren** General Counsel; Professor of Business Law
B.S., Brigham Young University, 1937; LL.B., St. John's University, 1939.
- Lawrence W. Sardoni** Associate Professor of Music (1945)
B.A., M.A., Brigham Young University, 1935, 1946.
- Donald T. Schmidt** Instructor in Library Science (1959)
B.A., M.A., State University of Iowa, 1947, 1949.
- Don D. Shaw** Instructor in Health Education (1959)
B.A., Brigham Young University, 1957.
- Merlin J. Shaw** Assistant Professor of Religion (1959)
B.A., M.A., University of Utah, 1938, 1946.
- *Sherman B. Sheffield** Instructor in History (1957)
B.S., Brigham Young University, 1952; M.S., University of Southern California, 1954.
(On leave for graduate study.)

- Morris A. Shirts** Assistant Professor of Education (1952)
B.A., M.A., Brigham Young University, 1947, 1950; Ed.D., Indiana University, 1952.
- R. Phil Shumway** Associate Professor of Animal Husbandry (1949)
B.S., Utah State University, 1947; M.S., University of Minnesota, 1949; Ph.D., Utah State University, 1959.
- Elbert R. Simmons** Instructor in Zoology and Entomology (1956)
B.S., Utah State University, 1941; M.A., State University of Iowa, 1943.
- John M. Simonsen** Associate Professor of Mechanical Engineering (1954)
B.S.M.E., University of Utah, 1950; M.S.M.E., Ph.D., Purdue University, 1952, 1955.
- *Karl M. Skousen** Instructor in Accounting (1958)
B.S., M.S., Brigham Young University, 1944, 1957; C.P.A., Utah, 1957. (On leave for graduate study.)
- Arthur D. Slater** Assistant Professor of Personnel and Guidance (1956)
B.S., Brigham Young University, 1948; M.S.W., Tulane University, 1950.
- Lyman F. Smart** Assistant Professor of English (1953)
B.A., Idaho State College, 1950; M.A., University of New Mexico, 1952.
- Carol T. Smith** Instructor in Library Science (1949)
B.A., Brigham Young University, 1940.
- Grant B. Smith** Special Instructor in Psychology (1958)
B.Ed., University of Alberta, 1948; M.S., Brigham Young University, 1958.
- Jay M. Smith, Jr.** Instructor in Accounting (1957)
B.S., Brigham Young University, 1953; C.P.A., 1953.
- Oliver R. Smith** Professor of Journalism (1938)
B.A., Brigham Young University, 1938; Ph.D., State University of Iowa, 1951.
- Robert J. Smith** Professor of Accounting (1949)
B.S., Brigham Young University, 1948; M.B.A., Northwestern University, 1949; C.P.A., Illinois, 1949; C.P.A., Utah, 1950; D.B.A., Indiana University, 1957.
- Wilford E. Smith** Associate Professor of Sociology (1948)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Washington, 1952.
- Rulon N. Smithson** Instructor in Modern Languages (1955)
B.A., M.A., Brigham Young University, 1954, 1955.
- Richard L. Snow** Assistant Professor of Chemistry (1957)
B.S., Ph.D., University of Utah, 1953, 1957.
- H. Wayne Soffe** Assistant Professor of Physical Education (1938)
B.S., M.S., Brigham Young University, 1938, 1941; D.P.E., Indiana University, 1955.
- John L. Sorenson** Assistant Professor of Anthropology and Sociology (1958)
B.S., M.A., Brigham Young University, 1951, 1952; M.S., California Institute of Technology, 1952.
- Helen D. Sovine** Instructor in Food and Nutrition (1957)
B.S., Brigham Young University, 1951.
- Irene Osmond Spears** Associate Professor of English (1936)
B.A., Brigham Young University, 1929; M.A., Ph.D., Stanford University, 1934, 1942.
- George Albert Spencer** Instructor in Electrical Technology (1958)
B.S., University of Utah, 1939.
- Sidney B. Sperry** Professor of Old Testament Languages and Literature (1932)
B.A., University of Utah, 1917; M.A., Ph.D., University of Chicago, 1926, 1931.
- Stephen S. Stanford** Assistant Professor of Housing and Home Management (1959)
B.S., M.S., Brigham Young University, 1950, 1951; Ph.D., University of Colorado, 1959.
- Russell Stansfield** Assistant Professor of Business Education and Office Management (1947)
B.S., M.S., Brigham Young University, 1940, 1949.

- *Homer G. Statham** Instructor in English (1955)
B.A., Mercer University, 1947; M.A., Brigham Young University, 1955. (On leave for further graduate study.)
- Floyd C. (Tally) Stevens** Associate Professor of Physical Education; Head Football Coach (1956)
B.S., University of Utah, 1949.
- Helen T. Stevensen** Instructor in Nursing (1957)
Diploma, Johns Hopkins Hospital, Baltimore, Maryland, 1947; B.S., University of Utah, 1957.
- Dee Leon Storrs** Instructor in Library Science (1957)
B.S., Brigham Young University, 1953; M.S., University of Washington, 1957.
- *Robert E. Struthers** Instructor in Speech and Dramatic Arts (1953)
B.S., Utah State University, 1949; M.S., Brigham Young University, 1953. (On leave for further graduate study.)
- *Howard S. Stutz** Assistant Professor of Botany (1953)
B.S., M.S., Brigham Young University, 1940, 1951; Ph.D., University of California (Berkeley), 1956. (On leave for post-doctoral research.)
- Albert D. Swensen** Professor of Chemistry (1947)
B.A., M.A., Brigham Young University, 1937, 1938; Ph.D., Louisiana State University, 1941.
- Beulah S. Swensen** Special Instructor in Business Education and Office Management (1956)
B.S., Brigham Young University, 1932.
- Merlynn Swensen** Instructor in Library Science (1958)
B.A., B.L.S., University of California (Berkeley), 1952, 1953.
- Russel B. Swensen** Professor of History (1933)
B.A., Brigham Young University, 1926; M.A., Ph.D., University of Chicago, 1931, 1934.
- Joseph N. Symons** Professor of Sociology (1953)
B.S., M.S., Utah State University, 1927, 1932; Ph.D., University of Chicago, 1944.
- Orea B. Tanner** Associate Professor of English (1938)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1953.
- Vasco M. Tanner** Professor of Zoology and Entomology (1925)
B.A., Brigham Young University, 1915; M.A., University of Utah, 1920; Ph.D., Stanford University, 1925.
- Wilmer W. Tanner** Associate Professor of Zoology and Entomology (1949)
B.S., M.A., Brigham Young University, 1936, 1937; Ph.D., University of Kansas, 1949.
- Celestia J. Taylor** Instructor in English (1959)
B.A., M.A., Brigham Young University, 1925, 1953.
- Charles Taylor** Associate Professor of Psychology (1954)
B.Mus., A.B., Ph.D., Syracuse University, 1940, 1948, 1954.
- Ethelyn Peterson Taylor** Assistant Professor of Psychology (1946)
B.S., Brigham Young University, 1937; M.A., Stanford University, 1949.
- H. Darrel Taylor** Associate Professor of Modern Languages (1948)
B.A., M.A., University of Arizona, 1947, 1948; Ph.D., University of Illinois, 1956.
- Harvey L. Taylor** Vice-President; Professor of Educational Administration
B.S., University of Utah, 1921; M.A., Columbia University, 1925; LL.D., Arizona State College, 1956.
- Weldon J. Taylor** Professor of Marketing; Dean, College of Business (1937)
B.S., Brigham Young University, 1934; M.B.A., Harvard Graduate School of Business Administration, 1937; Ph.D., Graduate School of Business Administration, New York University, 1955.
- Elvis B. Terry** Instructor in Music (1957)
B.S., M.S., Brigham Young University, 1933, 1950.

- J. Kenneth Thatcher** Instructor in Educational Administration (1956)
B.S., University of Utah, 1925; M.Ed., University of Idaho, 1936.
- *Douglas H. Thayer** Instructor in English (1957)
B.A., Brigham Young University, 1955; M.A., Stanford University, 1959. (On leave for graduate study.)
- Robert K. Thomas** Assistant Professor of English (1951)
B.A., Reed College, 1947; M.A., University of Oregon, 1949.
- Woodruff C. Thomson** Assistant Professor of English (1950)
B.A., M.A., University of Utah, 1938, 1949.
- Lucile Markham Thorne** Instructor in Library Science (1950)
B.A., M.Ed., Brigham Young University, 1929, 1956; M.S., University of Southern California, 1958.
- Frank M. Tippetts** Instructor in Civil Engineering (1958)
B.A., Brigham Young University, 1953.
- James R. Tolman** Assistant Professor of Library Science (1957)
B.A., Utah State University, 1949; M.S., University of Illinois, 1951.
- Jack B. Trunnell** Professor of Developmental Biology; Dean of
the College of Family Living (1958)
B.A., Brigham Young University, 1942; M.D., University of Utah, 1945.
- Glen C. Tuckett** Instructor in Athletics (1959)
B.S., University of Utah, 1953.
- Glen H. Turner** Associate Professor of Art (1947)
B.S., M.A., Brigham Young University, 1940, 1948.
- Rodney Turner** Assistant Professor of Religion (1956)
B.A., M.A., Brigham Young University, 1949, 1953.
- L. Elliott Tuttle** Assistant Professor of Geography (1936)
B.S., M.S., Brigham Young University, 1938, 1948.
- S. Lyman Tyler** Associate Professor of History; Director of Libraries (1952)
B.S., Ph.D., University of Utah, 1949, 1951.
- Clarence Tyndall** Assistant Professor of Education (1946)
B.S., Brigham Young University, 1941; M.A., Stanford University, 1952.
- Ottella W. Tyndall** Special Instructor in Human Development
and Family Relationships (1959)
B.S., Brigham Young University, 1956.
- Quentin E. Utley** Instructor in Education (1957)
B.S., Brigham Young University, 1940.
- Lee B. Valentine** Associate Professor of Modern Languages (1939)
B.A., M.A., Brigham Young University, 1939, 1948; Ph.D., Stanford University, 1958.
- John W. Van Cott** Instructor in Botany (1959)
B.A., Utah State University, 1941.
- Barbara Vance** Instructor in Human Development and
Family Relationships (1959)
B.A., University of Utah, 1956; M.A., Brigham Young University, 1959.
- Glenn M. Vernon** Associate Professor of Sociology (1959)
B.S., M.S., Brigham Young University, 1947, 1950; Ph.D., Washington State University, 1953.
- *Leo P. Vernon** Associate Professor of Chemistry (1954)
B.A., Brigham Young University, 1948; Ph.D., Iowa State College, 1951. (On leave for post doctoral research in Sweden.)
- Josie S. Vincent** Special Instructor in Housing and
Home Management (1957)
B.S., Utah State University, 1939.
- J. Homer Wakefield** Assistant Professor of Music (1949)
B.S., M.S., M.A., Brigham Young University, 1924, 1933, 1950.

- Lulu Wallace** Instructor in Physical Education (1956)
B.S., Utah State University, 1954.
- Mont M. Warner** Instructor in Geology (1958)
B.A., M.A., Brigham Young University, 1947, 1949.
- Max LeRoy Waters** Instructor in Business Education and
Office Management (1958)
B.A., Brigham Young University, 1958.
- Jean Anne Waterstradt** Instructor in English (1945)
B.A., Brigham Young University, 1945; M.A., University of Southern California,
1955.
- Arthur R. Watkins** Professor of Modern Languages (1952)
B.A., M.A., Brigham Young University, 1941, 1942; Ph.D., Stanford University, 1948.
- Ray Watters** Assistant Professor of Health and Physical Education (1957)
B.S., M.S., Utah State University, 1948, 1950.
- Stanley H. Watts** Associate Professor of Physical Education;
Head Basketball Coach (1947)
B.S., Brigham Young University, 1938.
- Ross M. Weaver** Assistant Professor of Speech and
Dramatic Arts (1959)
B.S., M.S., Utah State University, 1950, 1951.
- Newell B. Weight** Assistant Professor of Music (1950)
B.A., M.A., Brigham Young University, 1938, 1946.
- Kurt Weininger** Instructor in Music (1956)
Music Diplomas, Academy of Music and Arts, Vienna, Austria, 1951, 1953.
- Dale H. West** Assistant Professor of English (1947)
B.A., Brigham Young University, 1940; M.A., University of Southern California,
1955.
- Harold F. Western** Instructor in Accounting (1958)
B.S., Brigham Young University, 1954; C.P.A., Utah, 1959.
- J. Morgan White** Instructor in Accounting (1953)
B.S., M.S., Brigham Young University, 1951, 1958; C.P.A., Utah, 1953.
- Harry E. Wickes** Instructor in Mathematics (1957)
B.S., M.Ed., Brigham Young University, 1950, 1954.
- Ray T. Wilcox** Assistant Professor of Education (1957)
B.S., M.Ed., Brigham Young University, 1951, 1954; Ed.D., University of California
(Berkeley), 1957.
- Doran F. Wilkes** Instructor in Civil Engineering (1958)
B.S., M.S., Utah State University, 1951, 1955.
- William L. Wilkes, Jr.** Instructor in Music (1957)
B.A., Brigham Young University, 1952; Ph.D., University of Southern California,
1957.
- Ernest J. Wilkins** Associate Professor of Modern Languages (1953)
B.A., Brigham Young University, 1947; M.A., Ph.D., Stanford University, 1949, 1954.
- Ernest L. Wilkinson** President of the University
B.A., Brigham Young University, 1921; LL.B., George Washington University, 1926;
S.J.D., Harvard University, 1927; LL.D., Brigham Young University, 1957.
- *Milton George Wille** Assistant Professor of Mechanical Engineering (1958)
B.A., B.E.S., Brigham Young University, 1957; M.S., California Institute of Tech-
nology, 1958. (On leave for graduate study.)
- J. Kenneth Williams** Coordinator of the Teacher Certification Office;
Instructor in Education (1956)
B.S., Brigham Young University, 1948.
- Annette Wilson** Instructor in Nursing (1956)
Diploma, Thomas D. Dee Memorial Hospital, Ogden, Utah, 1951; B.S., University of
Utah, 1954.

- Arnold Wilson** Instructor in Civil Engineering (1957)
B.S., Brigham Young University, 1957.
- M. Lyman Wilson, Jr.** Assistant Professor of Industrial Management (1956)
B.A., Brigham Young University, 1954; M.B.A., Stanford University, 1956.
- *Marguerite L. Wilson** Instructor in Educational Psychology (1956)
B.S., University of Utah, 1948; M.A., San Francisco State College, 1955. (On leave for further graduate study at George Peabody College for Teachers.)
- Warren B. Wilson** Associate Professor of Art and Education (1954)
B.S., Utah State University, 1943; M.F.A., State University of Iowa, 1949.
- John H. Wing** Assistant Professor of Chemistry (1931)
B.S., M.S., Brigham Young University, 1926, 1934.
- Alan R. Witbeck** Instructor in Physical Education (1955)
B.S., M.S., Brigham Young University, 1952, 1954.
- Glena D. Wood** Assistant Professor of English (1952)
B.A., Brigham Young University, 1936; M.A., Ph.D., University of Kentucky, 1949, 1958.
- Stephen L. Wood** Assistant Professor of Zoology and Entomology (1956)
B.S., M.S., Utah State University, 1946, 1948; Ph.D., University of Kansas, 1953.
- Lael J. Woodbury** Associate Professor of Speech (1954)
B.S., Utah State University, 1952; M.A., Brigham Young University, 1953; Ph.D., University of Illinois, 1954.
- Richard C. Woodbury** Assistant Professor of Electrical Engineering (1959)
B.S., University of Utah, 1956; M.S., Stanford, University, 1958.
- Asahel D. Woodruff** Professor of Educational Psychology; Dean of the College of Education (1949)
B.S., M.S., Brigham Young University, 1936, 1937; Ph.D., University of Chicago, 1941.
- Ralph Woodward** Assistant Professor of Music (1955)
B.S., University of Idaho, 1940; M.M., Cincinnati Conservatory of Music, 1948.
- *Golden L. Woolf** Professor of Educational Administration (1934)
B.A., M.A., Brigham Young University, 1934, 1936; Ed.D., University of California, 1940. (On leave with United States Operations Mission in Iran.)
- H. Curtis Wright** Instructor in Library (1959)
B.A., M.A., Brigham Young University, 1954, 1955; M.S., University of Southern California, 1959.
- David H. Yarn, Jr.** Professor of Theology and Philosophy;
Dean of the College of Religious Instruction (1950)
B.A., Brigham Young University, 1946; M.A., Columbia University, 1949; Ed.D., Columbia University, 1958.
- Karl E. Young** Professor of English (1930)
B.A., M.A., Oxford University (England), 1930, 1934.
- (Names of faculty members on leave are marked with asterisks (*) in the departmental faculty listings.)

SPECIAL INSTRUCTORS OR LECTURERS

General Authorities of the Church of Jesus Christ of Latter-day Saints

Florence Beck, B.A., Consultant Instructor in Family Living

Archibald F. Bennett, M.A., Special Instructor in Religion

Jacob Bos, Special Instructor in Music

Rulon Brough, Special Instructor in Machine Accounting

Adine Bradley, Special Instructor in Music

Merrill Bushnell, M.B.A., Special Instructor in Industrial Management
Richard A. Call, M.D., Special Instructor in Bacteriology
J. H. Carlquist, M.D., Special Instructor in Bacteriology
Ina Lou Cheney, B.A., Special Instructor in Music
Lathair H. Curtis, B.A., Special Instructor in Journalism
Glenn L. Enke, B.S., Special Instructor in Housing and Home Management
George W. Fitzroy, Special Instructor in Piano
David Freed, B.S., Special Instructor in Music
Carl Fuerstner, Special Instructor in Piano
Barclay Gardner, M.S., Special Instructor in Economics
Paul Harmon, M.S., Special Instructor in Marketing
Franklin R. Haymore, B.S., Special Instructor in Journalism
Lucille N. Jensen, B.S., Special Instructor in Human Development and Family Relationships
Phil D. Jensen, B.S., C.L.U., Special Instructor in Insurance
Francis W. Kirkham, B.A., LL.B., Ph.D., Special Instructor in Religion
Lee Knell, B.S., B. Arch., Special Instructor in Art
W. H. Le Cheminant, M.D., Special Instructor in Bacteriology
Theron C. Liddle, Lecturer in Journalism
Arminta Mathews, B.S., Special Instructor in Music
Lorna Nielsen, B.A., Special Instructor in English
Elmer E. Nelson, Special Instructor in Piano
Joseph E. Nelson, B.S., LL.B., Special Instructor in Business Law
Richard Nibley, B.S., Special Instructor in Music
Kenneth Pace, B.S., Special Instructor in Marketing
Ford Paulson, Special Instructor in Agricultural Economics
O. Preston Robinson, B.A., M.S., D.C.S., Lecturer in Journalism
William B. Smart, B.A., Lecturer in Journalism
Lynn Taylor, B.A., Special Instructor in Art and Housing and Home Management
Richard M. Taylor, B.S., LL.B., Special Instructor in Business Law
Irene Thomson, B.S., Special Instructor in Food and Nutrition
Helen W. Wakefield, B.S., Consultant Instructor in Family Living
Kay Williams, M.B.A., Special Instructor in Economics
Margaret Woodward, B.A., Special Instructor in Music

EXTENSION SERVICES—SPECIAL INSTRUCTORS

Nicholas Van Alfen, B.A., M.A., Special Instructor in Religion
Merle E. Allen, B.S., M.Ed., Ed.D., Special Instructor in Education

Mark E. Anderson, B.A., Special Instructor in College of Business
G. Merrill Andrus, Special Instructor in Religion
Theron H. Atkinson, B.A., M.A., Special Instructor in Library Science
Leo H. Barlow, L.L.B., Special Instructor in College of Business
B. Harrison Barrus, B.S., M.Ed., Special Instructor in Religion
John E. Bean, B.S., M.Ed., Ed.D., Special Instructor in Education
Hugh C. Bennion, B.S., M.S., Ed.D., Special Instructor in Educational Adm.
Robert Leslie Berner, B.A., M.A., Special Instructor in English
LaMar C. Berrett, Special Instructor in Religion
Lowell G. Biddulph, B.A., M.A., Special Instructor in Recreation
Ruth H. Biddulph, B.A., Special Instructor in English
Norman Bowen, Special Instructor in Journalism
Olive Woolley Burt, B.A., Special Instructor in English
Vern Butcher, B.S., M.S., Special Instructor in Religion
Lee R. Cain, B.S., M.S., Special Instructor in Education
Elaine Cannon, B.S., Special Instructor in Family Living
Henry W. Chace, Special Instructor in Genealogy
Henry Christiansen, Special Instructor in Genealogy
Christie Lund Coles, Special Instructor in English
Elden Cox, Special Instructor in College of Business
Ruth Craig, B.A., M.A., Special Instructor in Education
Dello G. Dayton, B.S., M.A., Ph.D., Special Instructor in Religion
J. Ramon Drake, B.S., M.S., Special Instructor in Horticulture
Paul Dunn, B.S., M.S., Special Instructor in Education
A. Richards Durham, B.A., Special Instructor in Religion
Kay Fellows, B.S., Religion
Grant Fredrickson, B.A., Special Instructor in Horticulture
Herbert H. Frost, Special Instructor in Genealogy
George H. Fudge, Special Instructor in Genealogy
Rulon R. Garfield, B.S., M.A., Special Instructor in Political Science
David E. Gardner, Special Instructor in Genealogy
Ray Gleave, B.A., M.A., Special Instructor in Religion
Wayne C. Gunnell, B.S., M.S., Special Instructor in Religion
Glen F. Harding, M.D., Special Instructor in Zoology
C. Derek Harland, Special Instructor in Genealogy
James R. Harris, B.A., M.A., Special Instructor in Religion
H. Bartley Heiner, B.S., M.S., Special Instructor in Religion

Chester W. Hill, Special Instructor in Music
D. Crawford Houston, B.S., M.B.A., Special Instructor in College of Business
E. Virgil Howell, Special Instructor in Religion
Carl H. Jacob, B.A., M.A., Special Instructor in Religion
Martha R. Jenny, Special Instructor in Nursing
C. Cameron Johns, Special Instructor in English
Evan Jones, Special Instructor in Religion
Vincent Jones, Special Instructor in Genealogy
Odell Julander, B.S., M.S., Ph.D., Special Instructor in Botany
Thomas D. Kershaw, Special Instructor in Education
James L. Kirschbaum, B.S., M.S., Special Instructor in College of Business
David Lofgren, B.S., Special Instructor in Horticulture
T. Edgar Lyon, B.S., M.A., Special Instructor in Religion
Ellis McAllister, B.S., M.S., Ed.D., Special Instructor in Humanities
Rulon S. McCarrey, B.S., M.S., Special Instructor in Sociology
Calvin D. McOmber, Jr., B.A., Special Instructor in Religion
Leland H. Monson, B.S., M.S., Ph.D., Special Instructor in English
J. Duffy Palmer, B.S., L.L.B., Special Instructor in Law
Elmina C. Papworth, B.S., M.S., Special Instructor in Education
Oliver H. Parson, B.S., M.A., Special Instructor in Art
George E. Patterson, B.S., M.S., Special Instructor in Religion
Albert Payne, B.S., M.S., Special Instructor in Religion
H. Lester Peterson, Special Instructor in Religion
Robert S. Potter, Special Instructor in Religion
Sterling Provost, B.S., M.S., Special Instructor in English
Thomas Laine Raty, B.S., Special Instructor in Art
Norman Ricks, B.S., M.S., Special Instructor in History
O. Preston Robinson, Special Instructor in Journalism
Howard E. Salisbury, B.A., Special Instructor in English Literature and Languages
Norman L. Skanchy, B.S., Special Instructor in Art
Frank Smith, Special Instructor in Genealogy
Grace Nixon Stewart, B.S., M.A., Special Instructor in Speech
William B. Smart, Special Instructor in Journalism
George F. Swenson, B.S., M.S., Ph.D., Special Instructor in Speech and Dramatic Arts
Virginia M. Swenson, B.S., Special Instructor in Family Relations
Virginia Tanner, B.S., Special Instructor in Recreation

Carma L. Sandberg Librarian (1957)
B.A., Brigham Young University, 1932.

Joanne Wells Intermediate Grades and Elementary Methods (1959)
B.S., Brigham Young University, 1956.

The Secondary School

Verl Allman Biological Sciences (1950)
B.S., M.S., Brigham Young University, 1948, 1952.

Garth Allred English (1959)
B.A., M.A., Brigham Young University, 1950, 1958.

Wallace E. Allred Mathematics (1956)
B.S., M.Ed., Brigham Young University, 1956, 1957.

Alan R. Anderson Religion (1959)
B.S., B.Ed., University of Alberta, 1952, 1953.

Daryl Anderson English (1959)
B.A., Brigham Young University, 1956.

Frank H. Arnold Physical Education and Mathematics (1958)
B.S., Idaho State College, 1956.

Grant D. Bendixsen Mathematics, Core-Curriculum (1954)
B.S., M.S., Brigham Young University, 1949, 1953.

June E. Berry Librarian (1948)
B.S., Brigham Young University, 1947; M.S., University of Utah, 1952.

Melvin R. Brooks Religion (1955)
B.A., M.A., University of Utah, 1944, 1955.

Faye J. Buttle Speech, Core-Curriculum (1951)
B.A., M.Ed., M.A., Brigham Young University, 1927, 1953, 1954.

Julia A. Caine History, Social Studies (1941)
B.S., Brigham Young University, 1925; M.A., Colorado State College of Education, 1950.

Betty Jo Dunnell Home Economics (1956)
B.S., Brigham Young University, 1956.

Jed G. Gibson Physical Education and Athletics (1958)
B.S., University of Utah, 1956.

Max C. Golightly Speech (1956)
B.A., Brigham Young University, 1950; M.S., Brigham Young University, 1959.

Omar Hansen Mathematics and Physical Sciences (1957)
B.S., Brigham Young University, 1947.

Anna B. Hart English (1939)
B.S., Utah State University, 1922; M.A., University of Southern California, 1933;
M.Ed., George Peabody College for Teachers, 1949.

Ray W. Hellberg Art and Publications (1957)
B.A., M.S., Brigham Young University, 1955, 1957.

Ross C. Hilton Industrial Arts (1957)
B.S., Utah State University, 1951.

Don L. McConkie Social Studies (1953)
B.S., M.S., Brigham Young University, 1927, 1942.

Parke Madson Commercial Subjects (1955)
B.S., Brigham Young University, 1951; M.B.A., Indiana University, 1954.

Ward Magleby Religion (1957)
B.S., M.S., Utah State University, 1939, 1946.

James Mason Instrumental Music (1957)
B.A., M.A., Brigham Young University, 1955, 1957.

- LeRoy E. Porter** Counselor (1957)
B.S., Brigham Young University, 1954.
- Juanita T. Rogers** Physical Education and Health (1958)
B.S., Brigham Young University, 1956.
- M. LeRoy Sparks** Commercial Subjects (1944)
B.S., Utah State University, 1928.
- Lowell D. Thomson** Mathematics and Physical Science (1958)
B.A., Humboldt State College, 1952; M.S., University of Utah, 1958.
- Donna Lee Turley** Home Economics (1959)
B.S., Brigham Young University, 1953.
- Fredrick N. Webb** Vocal Music (1948)
B.A., M.A., Brigham Young University, 1933, 1954.
- June G. Whiteford** English (1955)
B.A., Michigan State Normal College, 1942; Certificate in Library Science, Gonzaga University, 1947.

Objectives

... seek ye out of the best books words of wisdom:
seek learning even by study, and also by faith.

—Doctrine and Covenants, Sec. 88, v. 118

David O. McKay, President of the Church of Jesus Christ of Latter-day Saints, has stated that the following should be the objectives of a student at the Brigham Young University:

1. Become aware of one's own ignorance and gain humility in contemplating how infinite God's creations are.
2. Increase one's knowledge, selecting those facts and truths which will be most valuable and realizing that exact and definite knowledge is always of the greatest possible value and importance to every individual who has the moral courage to use it rightly.
3. Learn that acquisition of knowledge will result only from personal effort, not from superficial study or shirking.
4. Realize the responsibility one has, because of free agency, of individual choice. The opportunity for rising above the plane of animal existence is open to all who will choose it.
5. Come to a knowledge that the purpose of life is not mere existence or pleasure or fame or wealth, but the perfection of humanity through individual achievement under the guidance of God's inspiration.

It has been the aim of the University to encourage students to realize these objectives, objectives closely allied to, and derived from, the basic philosophy of Mormonism: man, the son of God, is a free agent with unlimited possibilities for eternal development under God's guidance; a never-ending search for truth and for an understanding of the truth should be among the activities of those who aspire to perfection.

Brigham Young University

Past and Present

History of the University

Founding and Philosophy. Brigham Young University was established pursuant to a deed of trust executed by Brigham Young, President of the Church of Jesus Christ of Latter-day Saints, on October 16, 1875. That deed expressly set forth that the "pupils shall be instructed in . . . such branches as are usually taught in an academy of learning," and also "in the Old and New Testaments, the Book of Mormon and the Book of Doctrine and Covenants."

A group of seven persons appointed by President Young comprised the first Board of Trustees. They were Abraham O. Smoot, President of Utah Stake of the Church, which embraced all of Utah County, William Bringhurst of Springville, Leonard E. Harrington of American Fork, and Wilson H. Dusenberry, Martha J. Coray, Myron Tanner and Harvey H. Cluff of Provo, all prominent members of Utah Stake.

At a meeting November 22, 1875, the Board of Trustees organized the Academy. At that time the Timpanogos Branch of the University of Deseret had just been discontinued, and it was too late in the year to arrange a complete school year. Consequently the board decided to hold two preliminary terms of Brigham Young Academy. Warren N. Dusenberry, who had been principal of the Timpanogos Branch, was selected to become principal of the Academy. After conducting the first preliminary term, which ended April 15, 1876, he resigned to practice law.

Ten days later, President Brigham Young, acting for the Board of Trustees, requested Dr. Karl G. Maeser, a convert to the Church from Germany, to come to his office. "Brother Maeser," said the President, "I have another mission for you. We have been considering the establishment of a Church school, and are looking around for a man—a man to take charge of it. You are the man, Brother Maeser. We want you to go to Provo to organize and conduct an academy to be established in the name of the Church—a Church School."

A few days later, Dr. Maeser called at the office of President Young and said, "President Young, I am ready to go to Provo. What are my instructions?"

"Only this," replied the President. "I want you to remember that you ought not to teach even the alphabet or the multiplication tables without the spirit of God. That is all. God bless you. Goodbye."

Dr. Maeser accepted this all-embracing charge, believing that the ultimate good in education could be summed up in the words of the Master: "Be ye perfect, even as your Father in Heaven is perfect." In one of his memorable sermons, Dr. Maeser stated the real purpose of the school by saying, "Not by bread alone, neither for bread alone does man live. There are higher objectives yet to be attained, other truths to be learned, and greater work to be done." Years later, consistent with that philosophy, the school adopted as its motto this revelation of the Lord: "The Glory of God is Intelligence."*

*Doctrine and Covenants, Section 93.

Administration of Karl G. Maeser. Karl G. Maeser served as principal of the Academy from April 24, 1876 to January 4, 1892, a period of 16 years.

He had received intensive training in the excellent German schools of his time. He was a graduate of the Dresden Gymnasium and of the normal schools of Friedrichstadt, Germany. At the time of his conversion to the Church, he was Vice-Director of the Budich Educational Institute at Dresden.

Neither Warren N. Dusenberry nor Dr. Karl G. Maeser had much academic assistance at the beginning of school. When Dr. Maeser began his teaching at Brigham Young Academy, he was principal and the sole teacher of the twenty-nine students, most of them from Utah County.

The old Lewis Building, which stood on the corner of Third West and Center Streets, was the first home of Brigham Young Academy. This building was later described by Justice George Sutherland of the United States Supreme Court, one of the Academy's first students, as being a "structure without beauty or grace or any other aesthetic feature calculated to invite a second look . . . It consisted of one large room and a stage—both so utterly bare and gloomy as to make inappropriate any form of entertainment except tragedy."

By 1882 this building was found to be inadequate for the needs of the school, and additional rooms were built from funds provided by A. O. Smoot, Harvey H. Cluff, Myron Tanner, and W. H. Dusenberry. However, this structure was entirely destroyed by fire January 27, 1884. Temporary quarters were obtained, and the school continued with the loss of only one day of school. During the summer of 1884 arrangements were made with Z.C.M.I. for the use of the upper floor and part of the lower floor of its warehouse on University Avenue.

Members of the Board of Trustees were appointed by Brigham Young until his death in 1877, when this responsibility fell upon his heirs.

The transition of Brigham Young Academy into the University of the Church has been marked by periods of great financial distress. Brigham Young died before he had provided for the endowment of the institution. This left the school without any assured source of income.

In the early days of the school, when no funds for the budget could be found, the board actually considered closing the Academy. It was then that Professor Maeser and his faculty showed their loyalty by teaching for anything they could get, including agricultural products, which were accepted from students in lieu of cash tuition.

President A. O. Smoot of Utah Stake was equally loyal. In the winter of 1887, to bolster up a shrinking enrollment, he asked each member in attendance at a stake priesthood meeting to pay the tuition of at least one student at the Academy. On leaving before the close of the meeting, he told the priesthood assembled that they might name the sum he should pay and he would abide by the decision. Members of the Academy faculty readily responded to the call. One faculty member, who was teaching his first year at a salary of twenty dollars per month, paid a quarter's tuition for one student.

On June 8, 1888, President Wilford Woodruff organized a General Board of Education of the Church, consisting of nine members. This board directed the activities of the school, but the power of appointment of the Board of Trustees still remained with the heirs of Brigham Young until July 18, 1896, when, by the adoption of the Articles of Incorporation for the University, the right of appointment was granted to the First Presidency of the Church through the consent of the heirs of Brigham Young. By this action, the Church assumed the indebtedness of the institution and accepted the responsibility of maintaining Brigham Young University.

On January 4, 1892, the school was moved to what is now known as the Education Building, the first structure built especially for the University. Much

of the \$75,000 it cost was made available through the personal credit of President A. O. Smoot, a member of the Board of Trustees at that time.

Dr. Maeser's administration will be remembered primarily because of his masterful teaching. His legacy to the Church school system consisted of three ideals: (1) the acquirement of intelligence by academic studies; (2) the development of character; and (3) a reverence for the revealed word of God, together with a living testimony of the divinity of the message of the Church which he represented. He often stated that "no infidel" would go out from his school, and it is doubtful whether any did. His sermons were classics which lived with his students throughout their lives. He was the great spiritual architect of the school.

Administration of Benjamin Cluff. Benjamin Cluff, a former student of Karl G. Maeser, served as president from January 4, 1892, to December 23, 1903. He was one of the first native Utahns to earn a college degree, having received it from the University of Michigan in 1890. He influenced many young men and women to go to larger universities in pursuit of higher learning. Some of them later became teachers at Brigham Young University.

His administration was effective in changing the school from one which was still largely a normal school, with a very small college department, to a university.

After 1892, President Cluff asked the Church authorities to provide another building to house the growing student body properly. As the Church was not prepared to furnish the money, Reed Smoot, chairman of the Executive Committee of the Board, took the initiative and secured a contribution of one thousand dollars each from Wilford Woodruff, George Quayle Cannon, Joseph Fielding Smith, Reed Smoot, Jesse Knight, Charles Edwin Loose, Alfred William McCune, Amanda Inez Knight, Stephen L. Chipman, and Jesse William Knight. The cost of the building exceeded ten thousand dollars, but Reed Smoot subscribed the additional amount to cover the expense. It was named College Building. Dedication was held in connection with commencement week in 1898.

The financial panic of 1893 further intensified the school's financial difficulties. Some of the real estate sold to clear part of the indebtedness had to be repossessed by the school, and \$30,000 was supplied by the Church to be applied on its debts. President A. O. Smoot underwrote large notes for the school to keep it operating. On his death, the trustee-in-trust of the Church, in the interest of the heirs of the estate, agreed to underwrite all notes of the Academy bearing President Smoot's endorsement.

President Cluff was instrumental in founding an alumni association in June of 1893. He gave encouragement to student organization and activity. Early in his administration two school papers were begun; athletic sports such as football, basketball, and track were encouraged; and the school colors, blue and white, were chosen. He established the first summer school and added new departments and laboratories.

In 1894 the title of the head of Brigham Young Academy was changed from "Principal" to "President," and in 1903 the school became Brigham Young University.

In 1900 President Cluff sponsored a South American expedition to engage in archaeological study of Book of Mormon sites. While he was in South America, Acting President George H. Brimhall asked the authorities for a Church normal training school building with a gymnasium on the upper floor. Jesse Knight, a member of the Board of Trustees, volunteered a contribution of \$15,000. The board promptly authorized the project. Other contributions were solicited with good results. The total cost of the Training School and Gymnasium Building was \$35,000. The dedication service was held February 17, 1902.

Administration of George H. Brimhall. On April 16, 1904, after having acted as President of the University while Benjamin Cluff was in South America, George H. Brimhall was appointed President of Brigham Young University. Joseph B. Keeler was appointed his first counselor and Edwin S. Hinckley his second counselor.

Dr. Brimhall was also a former student of Dr. Karl G. Maeser. He was a dynamic speaker and also a great molder of character. He continually stressed the fact that the primary purpose of the school was to make better Latter-day Saints.

The Missionary and Preparatory Building, later known as the Art Building and now as B.Y. High, was dedicated October 26, 1904. It cost \$13,000, of which amount \$9,000 was apportioned to four stakes: Utah, Alpine, Nebo and Wasatch.

In 1904, the students and faculty began negotiations for the purchase of seventeen acres of land known generally as Temple Hill. This land, purchased from Provo City about 1907 at a total cost of \$1,000, was the beginning of the upper campus. A survey of the land purchased showed that about one and one-half acres at the point of the hill was not included in the deed given by Provo City. The students and faculty members of the school voluntarily raised an additional \$1,000 to pay for this land.

This purchase provided a place for the Maeser Memorial Building, the cornerstone of which was laid on Founder's Day, 1909. It was ready for occupancy the fall term of 1911. The structure and furnishings cost \$130,000; the Knight family contributed \$65,000, and other members of the alumni some \$50,000. The remainder of the cost was met through the sale of Blue Bench Irrigation Company Bonds owned by the school.

The Women's Gymnasium was erected in 1913 and the Mechanic Arts Building in 1919.

On December 21, 1914, the late Jesse Knight made an endowment to the University of one hundred thousand dollars in six per cent bonds. The interest payments on these bonds, together with the payments on bonds which have matured, have been placed at interest, and the cash credit of this account now represents approximately twice the amount of the original endowment.

During President Brimhall's administration, graduate work was introduced and the first master's degrees were conferred. The school spirit was furthered by the organization of the students into a student body. Printing of the school yearbook, *The Banyan*, was begun, and a huge white "Y" was placed on the mountainside east of Provo.

Dr. Brimhall served until July 1, 1921, a period of 17 years.

Administration of Franklin S. Harris. Franklin S. Harris, a former student of the institution under President George H. Brimhall, was selected to succeed his former president. Dr. Harris had received his Ph.D. degree from Cornell University, in 1911 and had served as an instructor in the Juarez Academy and Cornell University, as professor of agronomy for the Utah Experiment Station, director of the School of Agricultural Engineering and Mechanical Arts, and director of the Utah Experiment Station at the Utah State Agricultural College. He had a world-wide reputation as a scientist.

Dr. Harris became president July 1, 1921, and served until June 30, 1945, a period of 24 years, the longest term of any president. During his administration, academic gains of great significance were made. The University was organized into five colleges: Applied Sciences, Arts and Sciences, Commerce, Education, and Fine Arts; and the Division of Religion and the Extension Division were established. The Graduate School was formally organized and a dean of the Graduate School appointed. The Heber J. Grant Library was completed in 1925, the Y Stadium in 1929, and during the last ten years of his administration a building program was begun which has been accelerating ever since.

It was President Harris who first envisioned the present expanded upper campus of the University and indeed who made it possible by his extensive purchasing of lands surrounding the original upper campus. It was also during his administration that all members of the Quorum of the Twelve became members of the Board of Trustees.

In 1935 two stories were added to the Mechanic Arts Building to provide additional classrooms and laboratories. The name was changed to George H. Brimhall Building. During the year 1935-36, a Stadium House on the west side of the football field was erected. In 1937-38, Allen Hall, a men's dormitory, and in 1938-39, Amanda Knight Hall, a women's dormitory, were constructed. These accommodate 90 and 130 students, respectively. The construction of both buildings was financed by borrowing from the Knight Endowment Fund. The Joseph Smith Building was begun in 1939 and completed in 1941 as a project of the Church Welfare program. During 1943 the University acquired the National Youth Administration Building on the east part of the campus for use of the Mechanic Arts Department. In 1944, because of the acute housing problem created by the building of the Geneva Steel plant, it was equipped to serve as a temporary dormitory for women.

Administration of Howard S. McDonald. Howard S. McDonald, the next president of the University, served from July 1, 1945, to October 30, 1949. Before being appointed to this position he had served as assistant superintendent of schools in San Francisco and later as superintendent of Salt Lake City schools.

Under his leadership the school experienced a major expansion. From 1946 to 1948 the temporary women's dormitory at the southeast end of the campus was remodeled into what is now known as Social Hall, containing a large dance floor and classrooms and offices used by the Music Department. During the same period Knight-Mangum Hall, a four-level structure adjoining the Social Hall on the west, was constructed. This building provides housing and eating accommodations for 280 women. Because of the enlarged, post-war student body, student housing facilities were greatly increased. In cooperation with the Federal Works program, temporary housing, known as Wymount Village, was constructed in 1946-47 near the eastern edge of the campus for 200 married veterans and their wives and for 350 single veterans. Also under the Federal Works program of aid to education, temporary-type buildings were provided in 1946-47, consisting of the Physical Plant Building, Public Relations Building, North Building, Industrial Arts Building, Wymount Dining Hall, and University Press. In 1948 the Speech Department was moved to the Upper Campus and housed in temporary buildings. Here the Brigham Young University broadcasting station, KBYU, is located. A central heating plant costing \$200,000 was constructed in 1946.

Under President McDonald's direction the Eyring Science Center was begun and almost completed. Called by many educators the finest and most modern science building between the Mississippi and the Pacific Coast, it has four stories and contains approximately 150,000 square feet of floor space (practically the equivalent of the space in all of the other buildings of the University previously constructed). It is equipped with the finest facilities for study and research. Moreover, it is proof of the Church's sincere belief that there is nothing inconsistent between scientific truth and the teachings of the Gospel.

During his administration the planning and architectural drawings of buildings for the University were assigned to a University architect. The buildings and grounds were placed under the direction of a superintendent of buildings and grounds.

In the post-war era of expanding collegiate enrollments, Brigham Young University, under his direction, expanded at a much faster rate than many other universities of the country. The faculty was increased to meet the new need. The Graduate School and the Student Counseling Service were both reorganized. As was true with his predecessors, he upheld and perpetuated the spiritual ideals of the University's academic life.

Administration of Christen Jensen. Dr. Christen Jensen acted as President of Brigham Young University during 1939-40 (when Dr. Harris spent a year in Iran) and again from November 1, 1949, until the early part of 1951. His two periods of administration were characterized by an emphasis on scholarship and a meticulous observance of proper University standards. In an era of dynamic University problems, President Jensen directed an administration characterized by academic and administrative stability and sound judgment. Under his direction the Eyring Science Center was completed and dedicated on October 23, 1950; the plans for the new George Albert Smith Fieldhouse were approved, a drive for funds conducted, and its construction practically completed at a cost of over \$1,000,000. It provides, in addition to athletic and physical education facilities, offices for faculty members in the College of Physical Education. The Fieldhouse has a capacity of 10,650 persons.

Administration of Ernest L. Wilkinson. In 1950 Dr. Wilkinson was selected by the Board of Trustees as the new President. He began his period of service in February, 1951.

After graduating from Brigham Young University, he was graduated from George Washington University Law School where he received his LL.B. degree. He then attended Harvard Law School where he obtained the degree of Doctor of Juridical Science. After graduation he accepted an appointment to teach at the New Jersey Law School as Professor of Law. Soon thereafter he was invited to become an associate in the New York City law firm of which the Hon. Charles Evans Hughes, later Chief Justice of the Supreme Court of the United States, was the senior member. Later, organizing his own firm in Washington, D.C., Dr. Wilkinson achieved a national reputation as a lawyer, climaxed by obtaining judgments of \$32,000,000 for the Ute Indians, the largest judgments ever entered in the United States Court of Claims against the United States.

As a churchman, he has served as a bishop in the New York Stake and as a member of the stake presidency in the Washington Stake, and he has represented the Church on the National Commission for Army and Navy Chaplains, which approves chaplains appointed to the armed forces of the United States.

In 1951, a Reserve Officer Training Corps unit of the Air Force was activated at the Brigham Young University. The officers of this unit have been selected by the Secretary of the Air Force, with the approval of the President of the University. This unit is composed entirely of students regularly enrolled at Brigham Young University, and the same standards of conduct and living are required of them as of other students at the University. In accordance with an agreement with the federal government, a building was completed in October, 1952, which serves as a permanent rifle range for the A.F.R.O.T.C.

During his nine years of service, the University has experienced over 100 per cent increase in enrollment. In 1953, the University became the largest church-related institution of higher education in the United States. The faculty has witnessed an even larger proportionate increase in numbers, and the five colleges, one school, and two divisions previously comprising the University have been increased to eleven colleges, one school, and one division: Colleges of Biological and Agricultural Sciences; Business; Education; Family Living; Fine Arts; General; Humanities and Social Sciences; Nursing; Physical and Engineering Sciences; Physical Education; Religious Instruction; Adult Education-Extension Services; and Graduate School.

Throughout his administration President Wilkinson has insisted upon ever-higher standards of scholarship. Under his direction the curriculum has undergone extensive revision to eliminate sub-university or duplicating courses, to strengthen existing courses, and to add courses needed in the expanding college program.

Among his most significant achievements is the organization on January 8, 1956, of the Brigham Young University Stake of the Church. The original twelve

wards have been increased to twenty-six. Spiritual benefits of this program to students have been incalculable. One specific advantage is the providing of a spiritual adviser to every 300 or 400 students, supplementing the regular University Counseling Service and offering a dual system of advising and counseling.

During the administration of President Wilkinson, the following new buildings and facilities have been added to the University:

The Herald R. Clark Student Service Center, begun in July 1952, was completed and made available for occupancy in March 1953. The financing of this building was primarily from income of the Students' Supply Center over its years of operation. In the building are housed, in addition to the bookstore itself, the Adult Education and Extension Services—including the Audio-Visual Aids Department, the studentbody offices and organizations, student publications, and student services such as a placement bureau, a housing office and a post office.

A large building project was started July 1952 with the construction of 16 buildings making up what is known as Heritage Halls. These buildings, completely modern in every respect, house 972 girls. Six girls live together in an apartment, preparing their own meals and doing their own housework. There are ten apartments to a building. Occupancy of the first of the buildings was begun in March 1953. The entire project was completed and fully occupied by the fall quarter of 1953.

Eight new buildings to house women students were added to the original 16 buildings of the Heritage Halls group. The total project was completed in the summer of 1956 and was fully occupied for the fall quarter of that year. The addition of these eight structures brings the total accommodations for this type of housing for women to 1,539.

The Engineering Building, constructed in 1953 and added to in 1954 and 1955, is an H-shaped building having four wings with laboratory space for the Civil, Mechanical, Electrical, and Chemical Engineering Departments. The central core of the building consists of offices serving the needs of the teaching staff. In 1953 a motion picture building with sound stage and related facilities was constructed. This building was equipped with the most modern animation and motion picture sound equipment for the production of educational moving pictures used throughout the Church.

The David O. McKay Building, a classroom building containing 104 offices and 31 classrooms and laboratories, was begun in March 1954 and completed in December of that same year. This building currently houses the College of Education, the Departments of English, Modern Languages, History, and Political Science, and sections of the Department of Religion. In the early spring of 1955, the Benjamin Cluff Plant Science Laboratory, with two connecting greenhouses, was completed. This structure is used by the Botany, Agronomy, Horticulture and Horticultural Specialties Departments. The Howard S. McDonald Student Health Center was opened for use of all students enrolled at the University in the fall of 1955. The lower floor of this structure is currently used as headquarters for the A.F.R.O.T.C.

Construction of the Joseph F. Smith Family Living Center began in the fall of 1955 and was completed in December 1956. Housed in this structure are the College of Family Living, the College of Nursing, a nursery school, and the Departments of Psychology and Sociology.

New housing facilities for married couples were added to the University housing projects in 1957. Wyview Village, a project consisting of 150 two- and three-bedroom homes for married students, was completed and fully occupied in the fall of 1957.

Another project completed during 1957 was the conversion of the University heating system to a \$2,000,000 high temperature water system.

In the fall of 1958 five residence halls for men, known as Helaman Halls, were completed. This project consists of residence structures housing 1,170 men, and one central building with dining, recreation, and business office facilities. Two additional residence halls became part of this project in the fall of 1959, bringing the total number of accommodations up to 1,638.

A building for the production of motion pictures was completed in the fall of 1958. It is located in the river bottom area a short distance from the main campus. At the beginning of 1960 a new industrial education building was completed.

Many new projects have been authorized by the Board of Trustees to keep pace with the ever-expanding requirements of the University. These projects are in various stages of planning and development. Scheduled for completion for use beginning in the fall of 1960 are a new College of Business building and an addition to the George Albert Smith Fieldhouse. Under construction and scheduled for completion in 1961 are a new library and a new administration and general services building. A new fine arts center, a new "Y" student center, and a large married student housing project are all in architectural planning stages. Planning is proceeding rapidly on a new physical education and recreation center (which, among other facilities, is to have swimming pools and a gymnasium for women), additional housing for single women, and new structures and facilities for the agricultural departments.

The University Today

Unification Plan. In every era of the Church its leadership has been sensitive to the need of continued intellectual and spiritual growth for its members. To meet this need, Church educational policies have constantly been adapted or modified to serve more fully the youth of the Church.

It was in such a spirit that all Church educational institutions were combined in July 1953 under one administrator, Ernest L. Wilkinson, who in turn is subject to a board of trustees for Brigham Young University and a board of education for the rest of the Church School System. Both boards, however, consist of the First Presidency and the Council of the Twelve. In announcing this unified plan the First Presidency said: "This great system of schools, institutes, and seminaries can become an ever more effective instrumentality in equipping the youth of the Church with solid foundations to meet the challenge of modern living." It added that Dr. Wilkinson "has surrounded himself with strong men to do a big job," and that "he will have at his service the strength not only of these men, but of all the members of the Brigham Young University faculty."

Since the approval of this plan during the summer of 1953 the administrative offices of Church education have been established at Brigham Young University. Thus Brigham Young University becomes the mother institution for Latter-day Saint education. From this campus a spirit of simplifying efficiency, economy, uniformity of standards and procedures, and even wider cooperation and harmony can now weld all phases of Church educational work into a stronger unit than ever before.

Ernest L. Wilkinson, administrator of the unification plan, continues as President of Brigham Young University. Assisting him are three vice presidents: William E. Berrett, Earl C. Crockett, and Harvey L. Taylor. Joseph T. Bentley is Comptroller, and Ben E. Lewis is Director of Auxiliary Services. John T. Bernhard is Administrative Assistant to the President, while William Noble Waite is Assistant to the President in Charge of University Development.

Under this new plan, established schools, seminaries, institutes, and colleges continue their functions. Changes will be brought about as need and the growth

of the Church dictate. In addition, each institution shares its particular problems and philosophies with its sister institutions, as coordinated and interpreted by the administrator and his assistants.

Some time ago a survey was made of the faculty which yielded the following information:

- 8 had served or were then serving as mission presidents.
- 55 had served or were then serving in general auxiliary boards of the Church.
- 41 had served or were then serving in stake presidencies.
- 148 had served or were then serving in ward bishoprics.
- 97 had served or were then serving in high councils.
- 342 had served in various other auxiliary organizations or priesthood capacities in the Church and 289 were then teaching in auxiliary organizations or priesthood quorums.
- 170 had served or were then on leave serving on foreign missions.

All of the officers of the Air Force Reserve Officer Training Corps were members of the Church. Three were then serving as members of bishoprics. Eight had been on missions and 16 were then actively engaged in administrative and teaching positions in Church auxiliary organizations.

Academic Growth and Recognition. The Brigham Young Academy as originally organized by Karl G. Maeser had three departments: the Academic, the Intermediate, and the Primary. Instruction was given mostly in the work of the lower grades, although a normal class was included in the Academic Department. Today the University offers a full university curriculum, and its credits are recognized and accepted to the same extent as those of other leading American colleges.

The Brigham Young University is affiliated with the following educational associations:

- American Association for Adult Education
- American Association of Colleges for Teacher Education
- American Association of Collegiate Registrars and Admissions Officers
- American Association of University Women
- American College Public Relations Association
- American Council on Education
- American Library Association
- The American School of Oriental Research
- American Society for Engineering Education
- Association of American Colleges
- Department of Baccalaureate and Higher Degree of the National League for Nursing
- Educational Films Library Association
- National Association of Student Personnel Administrators
- National Commission of Accrediting
- National University Extension Association
- Utah Conference on Higher Education
- Western Council for Higher Education in Nursing
- Western Interstate Commission on Higher Education
- Western Personnel Institute

In addition, Brigham Young University is fully accredited by the following organizations:

- Northwest Association of Secondary and Higher Schools
- American Chemical Society
- National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and school service personnel, with the master's degree as the highest degree approved.

National League for Nursing

Utah State Department of Public Instruction in cooperation with the United States Office of Education for the training of vocational home economics teachers.

Growth of the Student Body. When founded in 1875, Brigham Young Academy gave elementary and high school work only. Over the eighty-six years of its existence it has become in terms of full-time equivalent students the largest university in Utah. At the present time it is experiencing a rapid growth, which, if continued, will soon make it one of the largest institutions of the West.

At the time of its organization in 1875, nearly all of the students came from Utah County and its environs. Its student enrollment began at 29. During the regular 1958-59 school year, it had on the campus approximately 11,427 day-time resident students. This number combined with the enrollments of the Summer School, Evening School, and Laboratory Schools brings the total to 14,813 students. In addition, there were 18,398 enrollments in the Extension Services from January through August 1959.

The students registered during the last few years came from all the states of the Union, the District of Columbia, the Panama Canal Zone, and from 50 foreign areas. Approximately 55 percent of the students are from outside the state of Utah, and this percentage is increasing each year.

As in the days of Dr. Maeser, industry and thrift are encouraged, and at the present time over 40 percent of all students are employed, earning part of their subsistence.

Membership in the Church of Jesus Christ of Latter-day Saints is not required for admission, although at the present time 95 percent of the students are members of the Church. The other 5 percent, as a condition of their continuance as members of the student body, are required to abide by the same standards of morality and integrity as other students.

Science and Art Collections

The archaeological collection consists of materials for study and research in the early history of man. Original antiquities on display, illustrating the early history of man in the Old World, range from crude stone "hand axes" of the Old Stone Age to inscribed tablets and other advanced products of the ancient biblical civilizations of the Near East; those illustrating the early history of man in the New World include representative artifacts of the early Indian cultures of Utah and the Southwest and antiquities of the ancient pre-Columbian civilization of Mexico and Central and South America. Supplementing this exhibit are replicas of such famous archaeological monuments as the Rosetta Stone—key to the deciphering of the Egyptian hieroglyphics—and the "Tablet of the Cross" from the ancient Maya city of Palenque in Central America.

Also in the archaeological museum is a research archive of several thousand photographs and field card records of antiquities excavated or examined by archaeological expeditions of the University and other institutions.

The botanical collection includes an herbarium of fungi, liverworts, mosses and vascular plants from many parts of the world. The mycological collection consists of over 600 specimens of fleshy and parasitic fungi, most of which have been collected in the Rocky Mountain area. This represents one of the best collections of fleshy fungi of this region.

The vascular plant herbarium includes some 200 plant families, 1200 genera, and 4000 species. These are represented by over 25,000 herbarium sheets. The

collection is made up principally of plants collected in the western states, but many plants of the eastern states, Europe, and South America are included as well as a good representation of the Arctic regions of Siberia, Iceland, and the Aleutians. The grasses are especially well represented. A separate collection of poisonous plants, range plants, woody plants, and plant diseases is maintained.

The department maintains a botany garden or arboretum where more than 300 trees of various regions of North America representing in excess of 100 species are grown in natural association. This garden is designed as an experimental project to enrich the tree flora available for use as shade trees, as a public educational exhibit, and as a study area for many classes.

The fine arts collection of paintings, sculpture, drawings, etchings, engravings, monotypes, lithographs, and reproductions of works of art is as follows:

I. Memorial Collections.

1. The Lee Greene Richards Collection of 36 paintings.
2. The James T. Harwood Collection of 90 paintings, etchings, and drawings.
3. The John Hafen Collection of 24 paintings.
4. The Elbert H. Eastmond Collection of 64 paintings.
5. The John Willard Clawson Collection of 85 paintings and sketches.
6. The Maynard Dixon Collection of 85 paintings and sketches.
7. The Edwin Evans Collection of 61 paintings.
8. The Rose Hartwell Collection of 71 paintings.
9. The Rose Hartwell Crafts Collection.
10. The Joseph Imhof Collection of lithographs.
11. The Merlin A. Steed Collection of 70 paintings.
12. The Mahonri Young Collection of 304 sculpture pieces (bronze and plaster), 326 paintings, 5308 water colors and drawings, 1112 etchings and prints.

Acquired with the Mahonri Young Collection are oils, pastels, drawings, water colors, etchings, and other prints totaling 2116 pieces. Among the artists represented above are such names as Albert Bierstadt, Clifford Beal, Camille Corot, Arthur B. Davies, William Glackens, Child Hassam, Winslow Homer, Edward Manet, Jean F. Millet, Joseph Pennell, John Twachtman, Dorothy Weir, J. Alden Weir, James Whistler, Harry Wickey, and others.

- II. Other Utah artists represented: George M. Ottinger, Daniel Weggeland, Loris Pratt, John B. Fairbanks, Samuel Jepperson, Minerva Teichert, Alma Wright, Waldo Midgley, Calvin Fletcher, Cornelius Salisbury, Joseph Everett, Henri Moser, Torlief Knaphus, Avar Fairbanks, Henry Rasmussen, B. F. Larsen, Edgar M. Jensen, Glen H. Turner, J. Roman Andrus, Warren B. Wilson, and Richard L. Gunn.
- III. Other well-known national artists represented: Lee Randolph, George Elmer Browne, Fern Gary, Gordon Grant, Marie A. Hull, Haley Lever, Clarence Millet, Luis F. Mora, Chauncey F. Ryder, Matteo Sandona, W. Lester Stevens, Anthony Thieme, John Law Walker, J. Alden Weir, John Whorf, Eliot Daingerfield, George Pierce Ennis, John E. Costigan, George Henry Taggert, William Morris, Jon Corbino, J. Connaway, Robert Brackman, Peter Hurd, Marguerite Pearson, Henry W. Ranger, John Twachtman, John F. Carlson, Gene Kloss, Earle Loran, Emil Bistran, Umberto Romano, Lez Haas, and Eric Bransby.
- IV. Original etchings, lithographs and other prints, including the work of Ernest Fiene, Rockwell Kent, Joe Jones, Reginald Marsh, Waldo Pierce, Herbert

Dunton, Boardman Robinson, Otis Dozier, Lawrence Barrett, John Taylor Arms, Kaethe Kollowitz, Gene Kloss, Conrad Buff, Reynold W. Weidenaar, Glen E. Alps, Marie Laurencin, Georges Rouault, Georges Braque, Max Ernst, Hans Erni, Fernand Leger, and Harry Sternberg. There are also 24 Rembrandt replicas.

- V. Oriental art, including Japanese paintings, prints, and reproductions.
- VI. Reproductions of famous works of art, including various types of modern art.
- VII. Large collections of slides, including natural color slides and the George K. Lewis memorial collection of kodachrome slides.

The Lotta Van Buren Collection of ancient instruments and music contains rare old instruments, modern reproductions of ancient instruments, literature on ancient instruments, and a library of old instrument scores. In this collection are also some ancient costumes and pictures of interest.

Among the instruments, some of which were made in the Fifteenth Century, are the following: a viola da gamba (once owned by George Frederic Handel), five viols, a cittern, an Arabian lute, a two-manual harpsichord, a virginals, an octavina, two clavichords, a hurdy-gurdy, and other such instruments.

The Van Buren Collection is one of the few collections in the United States in which all instruments are in playable condition. Several concerts in which some of these instruments are used are given each year.

This unusual collection, housed in a specially equipped room (210 College Building), is open for inspection by the public.

The geological collections of the University consist of an unusually complete series of minerals and an interesting variety of fossils.

The minerals number many thousands and are representative of the great western mining districts together with hundreds of localities of note. Part of this collection once represented the nucleus of the famous Deseret Museum Collection of Salt Lake City.

The fossil series are representative of many states and typical world localities. Much of this material also was formerly a part of the Deseret Museum Collection.

The zoological and entomological collections of the University consist of a large series of identified vertebrate and invertebrate species from Utah and other areas. These materials are available for regular class work and for research.

The vertebrate collections consist of ample series of well preserved and catalogued species of fishes, amphibians, reptiles, birds, and mammals. The collections include the Chester Van Buren collection of South American birds, the Robert G. Bee and John Hutchings collections of bird eggs, and the David Starr Jordan collection of fishes from the Hawaiian Islands. Several of our staff members have obtained collections from Mexico, the South Pacific islands, Formosa, and other distant localities, in addition to the ample collection of local species.

The invertebrate collections include several hundred thousand insect specimens and their near relatives as well as other groups of animals. This collection includes a large number of medically important arthropods such as fleas, lice, mites, and ticks. There is a good representative collection of marine invertebrates from the California coast. The insect series includes special collections such as the Tom Spalding butterfly collections, the Charles W. Leng collection of beetles, and the Charles Schaeffer collection of weevils. These are in addition to many insect specimens collected locally and in other parts of the world by the University staff and students.

Campus Libraries

The Heber J. Grant Library Building contains the general library collection, which includes approximately 300,000 bound volumes, several thousand pamphlets, and an extensive collection of titles on microfilm and microcards. A good selection of professional journals and of other current periodicals, as well as local, regional, and national newspapers, is also available.

The Brigham Young University Library is a depository for United States government documents and receives regularly publications of state and local governments. The general library facilities are available to students, faculty, alumni, and other interested persons. Regularly enrolled students present their activity cards to borrow books. Others may obtain a permit from the Circulation Librarian. The library is open during the college year from 7:30 a.m. to 10:00 p.m., Monday through Friday, and from 9:00 a.m. to 5:00 p.m. Saturdays. It is closed during assemblies each Monday, Wednesday, and Friday from 10:00 to 11:00 a.m. Vacation hours, when school is not in session, are 9:00 a.m. to 5:00 p.m., Monday through Friday; it is closed weekends and holidays.

Reserve book service for the Grant Library is maintained in rooms 212 and 213 of the McKay Building. Other books are placed on reserve in the Science and Life Sciences Libraries.

The Science Library is on the main floor of the Carl F. Eyring Physical Science Center. Books and periodicals in the following subject fields are found in this collection: physical science, radio, engineering, photography, and antiquities. The University map collection is located in the map room of the Science Library.

The Life Sciences Library—including biological and agricultural sciences, nursing, and home economics—is in the west basement of the Smith Family Living Center.

The Phonograph Record Library is in room 3263, Smith Family Living Center. All students and faculty are invited to use these facilities. Libraries are also maintained in connection with two laboratory schools on Lower Campus. These are available to students majoring in the College of Education as a part of their training program.

In room 160 of the Clark Student Service Center, the Journalism Department maintains a reading room containing current copies of daily newspapers, news magazines of the United States, and daily and weekly newspapers of the intermountain region.

The Special Collections of the University library are located in the Heber J. Grant Library Building. The books and other material housed in this area are not available for general circulation. Such collections often come to the library from individuals whose interests lead them to devote many years to their acquisition. The material within each collection is usually confined to a specific subject area.

The facilities of other libraries operated by the L.D.S. Church are also available to students of the Brigham Young University. The Genealogical Society Library, located at 80 North Main Street in Salt Lake City, is open every day except Sunday. This collection contains approximately 55,000 books and 125,000 rolls of microfilm. These include family histories, genealogy, biography and autobiography, military records, cemetery inscriptions, and town, country, and state histories of the United States and both local and national histories of other nations.

Facilities of the Library of the Church Historian's Office are available to advanced students for research, by arrangement. It is located in room 103 of the L.D.S. Church Office Building, 47 East South Temple in Salt Lake City, and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. Its collections con-

tain publications of the Church, periodicals of the various auxiliary organizations, reports and histories of the various missions, general history of the Church, biographies of Church leaders, and other pertinent published and archival material.

Alumni Association

The Brigham Young University Alumni Association was organized in 1893 to "promote the general welfare of Brigham Young University."

During the sixty-seven years of its existence, it has assisted the University in many ways: The Maeser Memorial Building was built with funds from alumni; part of the property on which the upper campus now stands was obtained by the Alumni Association and turned over to the University, and eighty additional acres were purchased by the Church at the suggestion of alumni leaders; a permanent endowment fund was established in 1929; the Alumni Association is now taking an active part in the Brigham Young University Destiny Fund Program; the fieldhouse fund drive was supported by the Alumni Association; funds in cash have been turned over to the University at various times for unrestricted use; and the alumni have played a vital part in stimulating interest in Brigham Young University through contacts with prospective students, etc.

Alumni of the University now number more than 76,000 and are located in all fifty states, four United States territories and possessions, and forty-eight foreign countries. Stake and mission presidents of the Church appoint alumni in their respective stakes and missions to serve as B.Y.U. coordinators, and these coordinators organize and conduct alumni activities in their areas. These coordinators are also members of the Alumni Council, governing board of the Alumni Association. The Alumni Council meets twice each year, during the weeks of April and October L.D.S. general conferences. Routine matters of the association are handled by an eighteen-member executive committee, headed by a president, two vice-presidents, a treasurer, the president of the Emeritus Club (composed of alumni who were at the University fifty or more years ago), and a full-time executive secretary. Members of the Executive Committee are selected each year to serve terms of three years. Members of the Executive Committee are also members of the Alumni Council.

Anyone who has attended the University for one quarter or more is a member of the Alumni Association. There are no annual dues or membership drives, except that the Alumni Association solicits contributions for the Brigham Young University Fund. All contributions to this fund are tax-deductible and entitle the donor to receive publications of the University and the Alumni Association, including the *Alumnus Magazine*, which is issued bi-monthly except during the summer.

Homecoming, in the fall, and Alumni Day, during Commencement Week, are the two major events of the year on campus for alumni. Periodic reunions of all graduating classes are held on these two days. Meetings also are held throughout the country by alumni living in local areas.

The Alumni Association maintains permanent records of all former students of the University and a full-time office staff on the campus. If the current address or other information is needed about a former student, correspondence should be addressed to the Alumni Office. Alumni visiting the campus are invited to visit the Alumni Office and to make it their headquarters while in the area.

The Alumni Association is a member of the American Alumni Council, an organization composed of alumni associations of all the major universities and colleges in the United States, Canada, and Mexico.

Brigham Young University Destiny Fund

On November 4, 1957, the First Presidency announced the establishment of a long-range gift development program to be known as the Brigham Young University Destiny Fund. The objective of this program is first to raise \$5,000,000 from the people most closely associated with the University—students, faculty and staff, alumni, and friends, both in and out of the Church. With this tangible evidence of loyalty, the program will then be extended to corporations, foundations and other sources. President William Noble Waite of the South Los Angeles Stake was appointed as assistant to the President in charge of campus development and is directing the progress of the Destiny Fund.

Student Academic Services

Admissions and Records Office

Student academic services of the Admissions and Records Office of the University include:

- Admission of students
- Selective Service reports
- Registration of students
- Academic grade reports
- General education program
- Evaluation of transfer credit
- Evaluation of foreign student credit
- Records of student progress
- Transcripts of University credit
- Services to veterans

The dean of Admissions and Records has general supervision over the services listed above. It is his responsibility to initiate and to recommend regulations, policies and procedures for implementing these student academic services and to administer the program as approved by the academic vice-president and the President of the University.

Admission

Admission to the University is granted on the basis of an official application. The necessary forms will be furnished by the Admissions and Records Office upon request.

Students who apply for admission and who are accepted by Brigham Young University are required to maintain ideals and standards in harmony with those of the Church of Jesus Christ of Latter-day Saints. High standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; and abstinence from alcohol and tobacco are required of every student.

It is **not** necessary to pass an entrance examination in order to be admitted to the University.

New Freshman Students. To be admitted to the University as a regularly matriculated student, an applicant must be a graduate of an approved high school and must have selected nine academic units from one or more of the following areas: English, mathematics, science, social science, foreign language.

To be eligible for regular admission, a student must also have a grade-point record average of 2.2 (A=4.0, B=3.0, C=2.0, D=1.0, E=0) in his previous high school work. If a student has a grade-point average of 2.0 to 2.2 he may be admitted on academic probation.

A student who has not graduated from high school but who has sixteen units (Carnegie) of high school credit may be admitted if his course of study and grades are approved by the Admissions Committee.

Students nineteen years of age and over who have not completed high school but who are otherwise eligible for admission may register as regularly matriculated students after the successful completion of the high school level General Education Development Tests. These tests may be taken at Brigham Young University, at the testing divisions of most colleges and universities, at most Armed Forces Educational Centers, or at a number of high schools.

Applications for all new freshmen students seeking admission to B.Y.U. should be submitted at least **thirty days** prior to the time of registration. Students who submit applications after this date may encounter delay and inconvenience in their admission and registration.

New Transfer Students. To be admitted to the University, a transfer student must give evidence of having maintained an average of 2.0 (A=4.0, B=3.0, C=2.0, D=1.0, E=0) in his previous college work.

Applications should be submitted at least **thirty days** prior to the time of registration. Students who submit applications after this date may encounter delay and inconvenience in their admission and registration.

The early presentation of all transfer credit is necessary in order that the credit may be properly evaluated prior to registration.

New Students from Foreign Countries. To be admitted to the University, a student from a foreign country must present credentials corresponding to the requirements stated above under the headings "New Freshmen Students" or "New Transfer Students."

Foreign student applications received on or before April 15 will be considered for the first semester, which begins in September. Applications received on or before August 15 will be considered for the second semester, which begins in February. For the summer term, applications should be received on or before January 15.

Former B.Y.U. Students. All former B.Y.U. students who have discontinued school for one semester or more must apply for readmission. Readmission applications will be furnished by the Admissions and Records Office upon request.

Applications for readmission should be made at least **thirty days** prior to registration.

Repeating Students. Registration packets will be prepared for all students in attendance at the University the previous semester.

Summer School Students. The same admission requirements as already outlined apply to new summer school applicants.

Those students who were in attendance at either of the two previous summer sessions will not need to apply for readmission. Registration packets will be prepared for them.

Notice of Acceptance. A notice of acceptance will be promptly mailed to all new and former students who have been accepted by the University. Those students with deficiencies will receive an answer to their application for admission outlining the problems involved.

Registration

Registration Procedure. Details of the registration procedure are outlined in the class schedule issued by the Admissions and Records Office each semester.

Limitation on Credit in One Semester. Undergraduate students in good standing may register for as many as 17 hours of credit in any one semester by following the regular registration procedure. In the case of a student who has academic ability of high quality, the dean of a college may authorize the student to register for a maximum of 18 hours for the first semester in residence and a maximum of 19 hours for any succeeding semester. Any student who has completed 15 or more hours of college work and who has a cumulative average of 3.5 (or a 3.5 average in the semester previous to registration) may register, with the consent of his dean, for 21 hours. Registration by correspondence, evening school, or off-campus courses constitutes a part of the student's total registration. Any exceptions to the above rules shall be presented to the dean of Admissions and Records by the dean of the college concerned.

Time of Registration. Students are urged to register on the days set aside for registration (see University Calendar). A late fee is charged to each student who does not complete his registration on the specified days. The term "registration" refers to the entire procedure, including the payment of fees. Prompt registration is at all times encouraged. No student may enroll late in any class unless he has the permission of the instructor concerned and the dean of the college in which he is enrolled.

Course Divisions. Courses of study are given numbers as follows:

Preparatory and remedial courses	1-99
Lower division courses	100-299
Upper division courses	300-499
Courses for graduates or advanced undergraduates	500-599
Graduate courses	600 and above

Election of Studies. With the advice and approval of the dean of the college in which he registers, the student should elect such studies as are desirable. The major and minor, as well as the general requirements for graduation, should be kept in mind in electing studies.

Withdrawal from Classes. Students discontinuing registration at the University are required to clear their termination through the office of the dean of their college and then the dean of students.

Any student withdrawing from individual classes shall clear with the dean of the college in which he is registered.

- If a student officially withdraws from a class during the first three weeks of a semester, the permanent record will show no registration for the class in question.
- Except for reasons beyond his control, a student who officially withdraws after the first three weeks of each semester will have "WE" shown on his permanent record for each class dropped. A "WE" grade counts the same as an "E" grade in computing the grade point average.
- If a student drops a class any time during the semester without officially withdrawing, he will receive a grade of "UW" (meaning unofficial with-

drawal) in every course so dropped. This will indicate that the student has failed to clear officially with the University. This grade will count in grade points the same as a failure grade of "E".

Withdrawal from Evening School Classes. Students who withdraw from classes for which they have registered in the Extension Services office must do so by notifying that office and completing the withdrawal forms. An evening school student who does not properly withdraw will receive a failing grade.

Registration of Prospective Secondary Teachers. All certificates for teaching, counseling, supervising, administration, and library work in the public schools of Utah are granted by the State Department of Public Instruction.

When all requirements for state certification have been fulfilled, students of the University who are registered in any of its colleges or in the Graduate School will be recommended for certification by the dean of the College of Education. This recommendation will be given just as readily to prospective secondary teachers who have registered in other colleges as to those who have registered in the College of Education, the dean of the College of Education acting merely in an administrative capacity as the representative of the University. However, all students in the teacher certification program, regardless of their college registration, are required to have an assigned adviser in the College of Education to approve the professional education sequence courses. Assignment of education advisers is made in the Teacher Certification Office.

Most students seeking an elementary certificate register in the College of Education. However, programs are available for majors in Human Development and Family Relationships and in Speech Correction to obtain an elementary teaching certificate.

Students who desire state certificates should make application with the dean of the College of Education through the Teacher Certification Office and not with the State Department of Public Instruction.

Completion of Registration. When the student has followed the prescribed registration procedure and has paid his fees, his registration is complete. The University will hold the student responsible for completion of the courses for which he has been enrolled, unless he obtains approval for change in registration, or files an official withdrawal from the University.

Complete Withdrawal from the University. Any student withdrawing from the University after the third week must be doing passing work in his classes if he is to discontinue without academic failure.

Records

Classification of Students. At the beginning of each semester regular students will be classified for that semester as follows:

Credit hours earned	Classification
0 to 31	freshman
32 to 62	sophomore
63 to 93	junior
94 and over	senior

Engineering students having more than 124 semester hours will be classified as 5th year professional students.

Completion of the required courses in freshman composition is prerequisite to classification as a junior.

A student who has met the entrance requirements but who registers for nine hours of work or less will be classified as a part-time student.

A regular student who has completed all requirements for the bachelor's degree is classed as a graduate student. A graduate student or a student holding a bachelor's degree from a four-year accredited institution may register at Brigham Young University as follows:

- a. In the Graduate School under the regular requirements for an advanced degree.
- b. In the Graduate School as a non-degree seeking student.
- c. In an academic college of the University seeking a second bachelor's degree.

A second bachelor's degree may be obtained by the student completing an additional thirty hours of credit prescribed by the college in which the second degree is taken. Admission procedures to the Graduate School are indicated in the graduate catalogue and apply to those who have graduated from Brigham Young University as well as other universities.

Credits. A student may have credit entered on the books of the University as follows:

- a. For work done in the regular courses offered by the institution.
- b. For courses taken by correspondence, in the evening school, or in the off-campus program. All such courses taken by a currently enrolled student must have the approval of the student's dean and will be considered part of his current semester load. Students will be held responsible for any unauthorized overload for which they register and such credit will not be allowed.
- c. For work done in an accredited college when such credit is to be used for graduation from Brigham Young University. Credit from other schools should be filed with the Admissions and Records Office upon application for admission to the University.
- d. By passing a satisfactory examination in any course offered by the University. Such credit will be given only with the consent of the head of the department concerned, the dean of the college in which the student is registered, and final approval for recording by the Admissions and Records Office.

A fee of \$5.00 per credit hour is charged for special examinations provided the total fee for any one subject does not exceed \$40.00.

By payment of an auditing fee, a student may obtain permission to audit courses of instruction. Under no circumstances can credit be obtained by means of special examinations for courses which have been audited.

An incompleted course of study must be completed within one year from the end of the semester when the incomplete was given. If a student does not complete a course within the prescribed time, his grade for the course automatically becomes an "E".

No final grade once recorded in the Admissions and Records Office shall be changed except to correct the record when an error in calculation has been made by the teacher or in posting by the Data Processing Department or the Admissions and Records Office, or by action of the Academic Regulations and Procedures Committee. When such corrections need to be made, an official "Teacher Grade Change Authorization" form must be filled out; signed by the teacher, the chairman of the department, and the dean of the college; and sent directly to the Admissions and Records Office.

It is the policy of the University to send semester grade reports to the parents of unmarried freshman students under twenty-one years of age and to parents of all unmarried students under twenty-one years of age who are on failure or probationary status.

All veterans should have their military experience evaluated for credit by applying to the Admissions and Records Office.

Veterans' Service

Korean (P. L. 550). Veterans who had active military duty any time after June 27, 1950, and prior to January 31, 1955, are eligible for veteran benefits under Public Law 550, 82nd Congress.

All veterans must begin their schooling under the Korean G. I. Bill within three years from their date of discharge or separation from the service. New veterans must make an application for eligibility. This application can be made upon the veteran's first arrival at the University. It is necessary to bring a copy of veteran's release from active duty, DD 214. A certified copy of a marriage certificate and/or child's birth certificate are necessary for veterans claiming dependents.

Veterans transferring their G. I. benefits from other schools to B.Y.U. must bring a certificate of eligibility restricted to B.Y.U. This must be obtained by making application at the last school attended.

War Orphans Education Program (P. L. 634). War orphans must bring a certificate of eligibility restricted to B.Y.U. before entering school under the War Orphan program. This may be made by making application at the Veterans' Administration Office in the veteran's home state.

For further information concerning any educational benefits problem, please write to Veteran Coordinator, Admissions and Records Office, Brigham Young University, Provo, Utah.

Graduation

Two-year Certificates. A two-year certificate is awarded by the University in the fields of Agriculture, Business, and Engineering Technology.

Baccalaureate Degrees. The University confers the baccalaureate degrees of Bachelor of Arts, Bachelor of Engineering Science, and Bachelor of Science degrees in the various academic colleges.

Advanced Degrees. Requirements for masters' and doctors' degrees conferred by the University are described in the Graduate School section of this catalog.

Minimum Requirements. For a student to be admitted to candidacy for a two-year certificate or a degree, his scholastic record must show that he has satisfied the entrance requirements to the University and that he has met all other necessary provisions.

The student must earn at least thirty semester credit hours on the Brigham Young University Campus at Provo.

The following graduation requirements apply to all candidates for a Bachelor of Arts or a Bachelor of Science degree from any of the colleges of the University:

Total amount of credit	124 hours
Upper division credit (minimum)	40 hours

Requirements for a major	20 or more hours
Requirements for a minor	14 hours

A candidate for a Bachelor of Arts degree is required to furnish training equivalent to sixteen hours of college credit in one foreign language. A candidate for a Bachelor of Engineering Science degree must complete the required courses in one field of engineering and must have a total of 154 hours of credit.

Major and Minor Requirements. At the time of his graduation, the student must have completed at least twenty semester hours in his major department and no fewer than fourteen hours in collateral or minor subjects which meet the approval of the head of his major department.

When the prospective graduate's high school and college work shows marked evidences of deficiencies and grade of scholarship, in breadth of training or in preparation for a probable future activity, the chairman of the department, in consultation with the dean, may prescribe certain additional specified courses according to the needs of the particular student.

Credit Restrictions. Not more than twenty-four hours of the total required for the baccalaureate degree may be correspondence credit.

Not more than eighteen hours of "D" grade credit may be applied toward graduation.

All incomplete grades must have been removed from the candidate's record at least four weeks prior to graduation.

Junior English Proficiency Examination. Each student with more than sixty semester hours of credit who has completed his Freshman Composition requirement must take the Junior English Proficiency Examination the first quarter in which he is eligible for it. If he fails this examination, he must take a non-credit remedial course during the next quarter in which he is a full-time student to correct his deficiencies before he may take the Proficiency Examination again. Passing this examination is a graduation requirement.

Application for Graduation. Application for graduation is made by obtaining the appropriate form from the Admissions and Records Office, Room 280, Maeser Building. Those students expecting to graduate in June should file the completed form with the Admissions and Records Office not later than January 15, and candidates for August commencement not later than March 15.

Attendance at Commencement. Each individual who graduates from the University must attend the commencement exercises unless officially excused under the authority of the President of the University. The request to be excused from the commencement exercises must be presented in writing at least two weeks prior to commencement, extreme emergencies of either illness or death in the family being the only exceptions to this requirement. Students not officially excused from commencement will not be graduated until they attend a later commencement in person.

Change in Graduation Requirements. The University reserves the right to change the requirements for graduation, and a candidate for graduation will be required to comply with all changes which pertain to the incompleting portion of his course.

General Education Requirements. All candidates for a bachelor's degree must fill the group requirements listed below under the topic "General Education Program."

SCHOLARSHIP RECOGNITION

In acknowledgement of outstanding scholarship, academic recognition is granted to certain bachelor's degree candidates. The announcement of such awards is made at the annual commencement exercises.

There are two designations in recognition of high scholarship: graduation *magna cum laude* and graduation *cum laude*. The award of *cum laude* is made on the basis of excellence shown in work up to, but not including, the second semester of the senior year.

A student receiving either type of recognition must rank among the highest ten per cent in his graduating class. Graduation *magna cum laude* will be awarded to the highest three per cent. Graduation *cum laude* will be given to the next seven per cent. This rating is determined by computing a grade point average as follows: each credit hour of "A" counts 4; each credit hour of "B" counts 3; each credit hour of "C" counts 2; each credit hour of "D" counts 1; "E" counts 0. The total number of points is computed and is divided by the number of credit hours carried.

The University will post and publish at the close of each semester of the regular school year the names of the students who have carried a minimum of 15 credit hours and earned a grade point average in all classes of 3.5 or above. Those with grade point averages of 3.8 and above will be given special recognition.

General Education Program

Beginning with First Semester 1960 all students entering B.Y.U. for the first time will be expected to complete the new program of General Education requirements. Other students may complete either the new program shown here or the old program outlined in the 1959-60 General Catalog. These students may choose either program but may not combine the two. All students who graduate after August 1963 will be expected to have completed the new program.

Transfer Students. At Brigham Young University a student has completed the general education requirements except religion and American History and Government if he has graduated from any accredited, two-year collegiate institution having a pattern of general education similar to that at B.Y.U. provided that he presents satisfactory evidence of having completed these general education requirements. Also, a student has completed the general education requirements except religion and American History and Government if he transfers to Brigham Young University from an accredited four-year college or university having a pattern of general education similar to that at B.Y.U. provided that he presents satisfactory evidence of having completed the general education requirements of his former college. Other transfer students will have their transcripts audited in terms of the B.Y.U. program and will be notified as to what remains to be completed prior to or during their first semester at B.Y.U.

Requirements

	Semester Hours
American History and Government	3
Biological Science	6
English Composition	6 or 4
Health	2
Humanities and Fine Arts	8
Physical Education	2
Physical Science	6
Religion (2 hours per semester in residence)	16
Social Science	5

American History and Government. This requirement applies to all candidates for the bachelor's degree. It may be satisfied by examination or by course work. Every student entering the University takes a placement test covering both American history and American government. Students showing highly superior preparation are exempted from course work under the requirement. All other students take History 170, except as provided below.

Students majoring or minoring in history, political science, economics, finance and banking, journalism, or secondary education (social science) take whichever of the following combinations is recommended for their field: History 120 and 121; History 121 and Political Science 110; or Economics 274 and Political Science 110. Other students may also elect these combinations instead of History 170. A student taking one of these combinations may, for General Education group filling purposes, elect to apply either of the courses to the American History and Government requirement and the other to the GE category in which the course is regularly listed.

Transfer students desiring to offer work from other institutions in satisfaction of all or part of this requirement should consult the History Department.

Biological Sciences. To satisfy the General Education Requirement in the Biological Sciences, a minimum of six semester hours of college credit is required. The general student who has not had adequate training in biology in high school as evidenced by his score on the entrance examination must take a three-hour principles-of-biology course, Botany 101 or Zoology 105. The remaining requirements shall be satisfied by taking courses specified by the departments of Bacteriology, Botany, or Zoology, given in the list below. A student whose entrance tests indicate superior preparation in Biological Sciences will not take a general course for credit but shall take his six hours from the more advanced courses. At least one course must have a weekly laboratory whether the student takes the general course or not, and two departments should be represented.

- Bacteriology 121 (3) General Bacteriology
- Bacteriology 311 (2) Sanitation and Public Health
- †Bacteriology 321 (3) General Microbiology
- †Bacteriology 331 (4) Microbiology
- Botany 101 (3) Plant Biology
- Botany 105 (3) The Plant Kingdom
- †Botany 176 (3) Heredity
- Botany 205 (2) Field Botany
- †Botany 376 (3) Genetics
- †Botany 450 (3) Plant Ecology
- Botany 460 (2) Conservation of Natural Resources
- Zoology 105 (3) Animal Biology
- †Zoology 164 (3) Human Anatomy and Physiology
- †Zoology 176 (3) Heredity
- †Zoology 212 (4) Invertebrate Zoology
- †Zoology 213 (4) Vertebrate Zoology
- †Zoology 261 (4) Human Anatomy and Physiology for Nurses
- †Zoology 315 (3) Natural History
- †Zoology 376 (4) Genetics

English Composition. The requirement is six semester hours for the majority, and four semester hours for the superior group selected by testing for English 115 and 116.

Health. The requirement is two semester hours, Health 130. For students who present evidence of superior preparation, the requirement will be waived.

This will be determined by an examination prepared by the interested departments and should be administered at orientation. Veterans with at least one year's service are exempt from the requirement. Nurses who complete Nursing 202 and 212 are also exempt. Students who take this course may count one hour of it toward religion credit.

Humanities and Fine Arts. The requirement is 8 semester hours. Of the eight hours the student must take 3 hours in literature and some work in at least two other departments. A full year's beginning course of 8 semester hours in a foreign language shall carry 3 hours toward the satisfaction of this group requirement and may reduce the requirement in literature to two hours.

†Archaeology 310 (3) Introduction to Oriental and Biblical (Historical Near-Eastern) Archaeology

Art 101 (2) Introduction to Art

Art 108 (2) General Art

Art 110 (2) Design in Everyday Life

Art 306 (3) Art History and Appreciation

Art 307 (2) Contemporary Art

Art 308 (2) American Art

Art 403 (2) Ancient and Primitive Art

Art 405 (3) Medieval and Renaissance Art

Economics 274 (3) Economic and Financial History of the United States

English 250 (3) Introduction to Literature

English 252 (2) Introduction to Poetry

English 253 (2) Introduction to Drama

English 256x (3) Classic Myths

English 260 (3) Masterpieces of American Literature

English 270 (3) Masterpieces of English Literature

English 282 (2) Shakespeare

English 331, 332, 333 (2 ea.) The English Novel

English 335, 336 (2 ea.) The American Novel

English 338 (3) The European Novel

English 345 (3) The Spirit of Tragedy in Literature

English 346x (2) Greek Life and Drama

†English 350 (2) The Bible as Literature

English 355, 356, 357, 358 (3 ea.) World Classics

English 359 (2) The Short Story

English 361, 362, 363 (3 ea.) Early American Literature, American Renaissance, and Later American Literature

English 366 (2) Modern Poetry

English 367 (2) English and American Folk Poetry

English 371, 372, 373, 374, 375 (3 ea.) English Literature: to 1500; 1500 to 1660; 1660 to 1780; 1780 to 1832; 1832 to 1900

English 376 (2) Twentieth Century English Literature

English 382 (3) Shakespeare

English 481 (3) Chaucer

English 483 (2) Milton

English 487 (2) Matthew Arnold

History 110 (3) World Civilization I

History 111 (3) World Civilization II

- History 120 (3) The United States to 1865
- History 121 (3) The United States since 1865
- History 300 (2) Early Oriental History
- History 304 (3) Greek History and Civilization
- History 307 (3) Roman History and Civilization
- History 311 (3) History of the Middle Ages
- History 312 (3) Renaissance and Reformation
- History 323 (2) Europe in the Twentieth Century
- History 335 (3) England
- History 340 (3) Asia
- History 352 (3) History of Latin America II
- History 373 (2) American Intellectual and Cultural Growth
- Humanities 101 (3) An Introduction to the Humanities
- Journalism 101 (2) Introduction to Mass Communication
- Journalism 410 (3) History of Mass Communication
- Music 101 (3) Introduction to Music
- Music 103 (2) Survey of Music Literature
- †Music 484, 485 (3 ea.) History of Music
- Philosophy 380 (2) Survey of Philosophy
- Philosophy 480 (3) Introduction to Logic
- Philosophy 482 (2) Ethics—Plato to Dewey
- Philosophy 484 (2) Types of Religious Philosophy
- Recreation 337 (2) Philosophy of Recreation
- Speech 121 (3) Voice, Diction, and Interpretation
- Speech 315 (2) Introduction to the Theatre
- Speech 316, 317 (3 ea.) Theatre History
- †French 431, 432 (3 ea.) Masterpieces of French Literature
- †French 441, 442 (3 ea.) Survey of French Literature and Culture
- †German 431, 432 (3 ea.) Masterpieces of German Literature
- †German 441, 442 (3 ea.) Survey of German Literature and Culture
- †Italian 431, 432 (3 ea.) Masterpieces of Italian Literature
- †Latin 441, 442 (3 ea.) Survey of Latin Literature and Culture
- †Portuguese 431, 432 (3 ea.) Masterpieces of Brazilian and Portuguese Literature
- †Russian 431, 432 (3 ea.) Masterpieces of Russian Literature
- †Spanish 431, 432 (3 ea.) Masterpieces of Spanish and Spanish-American Literature
- †Spanish 441, 442 (3 ea.) Survey of Spanish Literature and Culture
- †Spanish 451, 452 (3 ea.) Survey of Spanish-American Literature and Culture

Physical Education. Two semester hours or the equivalent is the requirement. One-half credit hour is given each semester of the freshman and sophomore year. (The transfer equivalent will be based on class hours of activity and not necessarily on credit hours.) **Exceptions:** (1) Students who are majoring in and who complete the course in engineering science together with requirements for an

air science commission are not subject to the physical education requirement. (2) Engineering science students who withdraw from the air science program after two years are exempt from one semester hour of physical education.

Note that Physical Education 180 does not meet this requirement.

Physical Science. Six semester hours are required. Students enrolled in the College of Physical and Engineering Sciences will fill this requirement automatically. Others may choose either of the following options.

Option 1: Physical Science 101, 102 (3 credits each), Concepts of Physical Science. The requirement in physical science may be met by completing both courses of this sequence. They must be taken in the order indicated, and preferably the same year although this is not mandatory. No part of the credit thus earned can be used in fulfillment of Option 2. This sequence is particularly suitable for students who have little background in science or mathematics but who wish to obtain an understanding of topics selected from all the fields of physical science. It should be of special interest to those majoring in elementary education or in non-science areas of secondary education. For a more detailed description, refer to Physical Science under the general list of courses.

Option 2: At least one course must be selected from each of two of the following three departmental lists so that a minimum of six semester hours is accumulated.

Chemistry 100 (2) Elementary College Chemistry

Chemistry 101 (5-4) Introductory Inorganic Chemistry (for family living, nursing, and related fields)

†Chemistry 102 (5-4) Introductory Organic Chemistry (for family living, nursing, and related fields)

†Chemistry 105, 106 (4 ea.) General College Chemistry (designed for engineering students)

†Chemistry 111 (4) Principles of Chemistry

†Chemistry 112 (3) Principles of Chemistry

Geology 101 (2) Introduction to Geology

Geology 102 (1) Introduction to Geology Laboratory (may be taken only if accompanying Geology 101)

Geology 103 (3) Life of the Past

Geology 111 (4) Physical Geology

†Geology 112 (4) Historical Geology

Geology 306 (3) Geomorphology

Physics 100 (3) Essentials of Physics

Physics 105, 106 (3 ea.) Technical Physics

Physics 127 (3) Descriptive Astronomy, "The Solar System"

Physics 128 (3) Descriptive Astronomy, "The Stellar System"

Physics 137 (3) Weather and Climate

Physics 177 (3) Physics of Light and Photography

†Physics 201, 202 (4 ea.) General College Physics

†Physics 211, 213 (4 ea.) General Physics: Classical (designed primarily for physical science, chemistry, and engineering majors)

†Physics 212, 214 (1 ea.) General Physics Laboratory

Religion. Two semester hours are required for each full-time registration at B.Y.U. up to a total of sixteen semester hours. Part-time students are required to complete one semester hour in religion for each eight hours carried at B.Y.U.

Twelve of these hours are to be taken from the courses shown below and actually offered by the College of Religious Instruction. Those students who take Health 130 may count one hour of that class toward religion credit. The four re-

maining hours may be taken from the approved list of cross-referenced courses shown in the footnote below or from the other offerings of the College of Religious Instruction.

In fulfilling the requirement in religion, a student must take courses from the following lists:

Freshmen and sophomores, except for returned missionaries, must obtain a total of 8 hours from the following courses*:

History of Religion 241, 242 (2 ea.) L.D.S. History and Doctrine

Scripture 121, 122 (2 ea.) Introduction to the Book of Mormon and Its Teachings

Bible 211, 212 (2 ea.) Introduction to the New Testament: Jesus and the Apostles; Introduction to the New Testament: Paul and the Early Church

Theology 131, 132 (2 ea.) Fundamentals of the Gospel

Theology 133, 134 (2 ea.) Introduction to the Gospel (for non-LDS)

Church Org. and Adm. 161 (4) Training for Prospective Missionaries
Church Org. and Adm. 162, 163 (2 ea.) Missionary Approach to the Gospel

Juniors and seniors (including all returned missionaries regardless of class) must take courses from the following list*:

Bible 301, 302 (2 ea.) Introduction to the Old Testament and Its Teachings

Bible 401 (2) Israel's Prophets

Bible 411 (2) Life and Teachings of Jesus

Church Org. and Adm. 361, 362 (2 ea.) Genealogy

Church Org. and Admin. 460 (2) Priesthood, Church Government and Welfare

History of Religion 441, 442 (3 ea.) History and Doctrine of the L.D.S. Church

History of Religion 451, 452 (2 ea.) Christian History through 15th Century, Christian History after 15th Century

History of Religion 453 (2) World Religions

History of Religion 454 (2) American Religions

Philosophy 380 (2) Survey of Philosophy

Philosophy 480 (3) Introduction to Logic

†Philosophy 482 (2) Ethics, Plato to Dewey

Philosophy 483 (2) Problems of Knowledge

†Philosophy 484 (2) Types of Religious Philosophy

Scripture 324, 325 (2 ea.) The Doctrine and Covenants

Scripture 327 (3) Introduction to the Pearl of Great Price

Scripture 421, 422 (2 ea.) History and Teachings of the Book of Mormon

Theology 331, 332 (2 ea.) Analysis of L.D.S. Teachings

Theology 438 (2) Your Religious Problems

*Students may elect to take up to one-fourth of their total religion-credit requirement from the following courses provided that their class standing—freshman, sophomore, junior, or senior—is at least the same as the level—100, 200, 300, or 400, respectively—of courses elected:

- †Archaeology 310 (3) Introduction to Oriental and Biblical (Historical Near-Eastern) Archaeology
- †Archaeology 360 (3) Ancient Civilizations of the New World
- †Archaeology 440 (3) Archaeology and Early History of Middle America
- †English 350 (2) The Bible as Literature
- History 300 (2) Early Oriental History
- History 312 (3) Renaissance and Reformation
- History 366 (2) Utah
- †Human Development and Family Relationships 210 (3) Child Development
- Human Development and Family Relationships 261 (2) The Latter-day Saint Family
- Human Development and Family Relationships 360 (3) Achieving Success in Marriage
- †Human Development and Family Relationships 361 (2) Family Relationships
- †Human Development and Family Relationships 412 (3) Principles of Child Guidance
- †Human Development and Family Relationships 440 (2) Family Life in the Middle and Later Years.
- Instruction 300 (2) Teaching in the Church
- Music 201 (2) Baton Technique and Hymnody
- †Music 202 (2) Essentials in Conducting
- Psychology 454 (2) Psychology of Religion
- Recreation 387 (2) Planning for Social Recreation
- Recreation 388 (2) Leadership in Church Dance
- Youth Leadership 177 (2) Scouting in the L.D.S. Church

Social Sciences. Five semester hours with some work in two areas are required.

- Agricultural Economics 101 (3) Economics and Agriculture
- Anthropology 101 (3) Introductory Anthropology
- Anthropology 111 (3) Cultures of the World
- Economics 101 (3) Introduction to Economics
- Economics 111, 112 (111-3, 112-2) Economic Principles and Problems
- Economics 358 (3) International Trade and Finance
- Economics 383 (2) Comparative Economic Systems
- Geography 101 (3) Introduction to Geography
- Geography 120 (3) Geography and World Affairs
- Geography 231 (3) Economic Geography
- Geography 351 (3) North America
- †Geography 441 (3) Political Geography
- Geography 460 (3) Europe
- †Human Development and Family Relationships 210 (3) Child Development
- Human Development and Family Relationships 360 (3) Achieving Success in Marriage
- †Human Development and Family Relationships 361 (2) Family Relationships

- Political Science 105 (1) Current Affairs
Political Science 110 (3) American Government
Political Science 111 (3) State and Local Governments
Political Science 112 (3) Foreign Governments
Political Science 115 (3) Introduction to International Relations
Political Science 210 (5) The American System of Government (Honors Program)
Political Science 212 (5) Comparative Governments and International Relations (Honors Program)

Psychology 111 (3) General Psychology
†Psychology 320 (2) Psychology of Childhood
†Psychology 321 (2) Psychology of Adolescence (Either Psychology 320 or 321—not both—may apply.)
†Psychology 322 (2) Psychology of Adult Life
†Psychology 350 (3) Introduction to Social Psychology

Sociology 111 (3) Introductory Sociology
Sociology 112 (3) Social Disorganization
Sociology 125 (2) Applied Sociology
†Sociology 350 (3) Introduction to Social Psychology
Sociology 389 (3) Social Aspects of Mental Health

† These courses have prerequisites.

Honors Program

Robert K. Thomas, Director (237 McKay)

Beginning with the first semester of the 1960-61 school year a distinct, full-scale honors program will be underway at Brigham Young University. While several departments have heretofore provided special opportunities and direction for superior students, there has not been provision for a complete honors program in any department or college of the University.

In setting up such a program the administration and faculty of B.Y.U. have sought to integrate honors work in the various colleges and make possible a more flexible approach to the complete education of its best students.

Objective

Honors work endeavors to discover the able student and stimulate him to make the most of his ability. Among the specific ways in which superior students may be challenged are the following:

1. Waiving of prerequisites allows for greater depth in the field of a student's major interest.
2. An inter-disciplinary approach, where feasible, provides for broader, integrated learning.
3. Independent research and experimentation help a student to set goals which reflect his own interests and abilities.

In general, the Honors Program hopes to enrich, rather than shorten, the superior student's academic experience.

Organization and Administration

The Honors Program is supervised by an executive committee and a director. Advisers, who guide the work of not more than ten honors candidates, are nominated by their departments in consultation with the Executive Committee. The student is expected to maintain close contact with his adviser throughout the four years, and the adviser reports periodically to the Executive Committee and the director as to the student's progress. It is hoped that a close, working relationship will develop between adviser and candidate, for this in itself can be an integral part of the student's education.

Selection of Candidates

The Honors Program hopes to serve as many students as possible. Practically, however, honors work must be limited to those who show unmistakable promise on the basis of interviews, tests, and performance. Ordinarily, candidates for honors are selected as follows:

1. Recommendations from high school, with subsequent testing and screening.
2. Evidence as to his qualification presented by the student on his own initiative, with subsequent testing and screening.
3. Recommendation by college instructors at B.Y.U. or elsewhere, with subsequent screening.

Screening interviews will be conducted by the Executive Committee and staff of the Honors Program with the assistance of the B.Y.U. Counseling Service. A student may enter the program at any time, but normally he would not do so after the first semester of the junior year.

Curriculum of the Program

Specific General Education requirements are waived for honors candidates. In their place the student, in consultation with his adviser, creates a course of study tailored to his needs but including a broad coverage in the areas of General Education.

The student may declare a major at any time but will be urged to do so by the end of his sophomore year. When the major is declared, if the student is not being guided by an adviser from the area of his major, he is reassigned; the adviser and student then design a program for major studies. The Honors Program maintains interest in and supervision of the student's over-all work, but authority for the major requirements continues to rest exclusively in the department and college. The adviser represents both department and the Honors Program to the student. Interdepartmental and intercollegiate majors are allowed—even encouraged—and will be handled by the director of the program in consultation with the departments involved.

Honors will be granted on the result of a special comprehensive examination to be given all honors candidates at the end of the senior year. The honors candidate will be graduated by the college of his major upon nomination of the Executive Committee of the Honors Program. Three degrees of graduation are allowed: (1) no honors (2) honors (3) high honors.

Additional information regarding the Honors Program at B.Y.U. will be available in a bulletin to be issued during the spring of 1960. If you would like this bulletin forwarded to you, please write to the Office of Public Relations and ask that a copy be sent you as soon as it is ready. For answers to particular problems write the Director of Honors Program, 237 McKay Building, Brigham Young University, Provo, Utah.

University Fees

Although these figures are as accurate as possible at the time of the printing of this catalog, the University must reserve the right to change them without notice.

General Fees

REGULAR COLLEGE AND GRADUATE STUDENTS:

	1st Semester	2nd Semester	Total
Tuition	\$ 90	\$ 90	\$180
Building, gymnasium, student activity and health fees	40	40	80
	<u>\$130</u>	<u>\$130</u>	<u>\$260</u>

SPECIAL COLLEGE AND GRADUATE STUDENTS:

	Tuition	General Service*	Total
Minimum fee	\$22.50	\$ 4.50	\$27.00
Three credit hours	30.00	6.00	36.00
Four credit hours	37.50	7.50	45.00
Five credit hours	45.00	9.00	54.00
Six credit hours	52.50	10.50	63.00
Seven credit hours	60.00	12.00	72.00
Eight credit hours	67.50	13.50	81.00
Nine credit hours	75.00	15.00	90.00

*The general service fee does not include health service or student activity privileges.

The charge for auditing courses is the same as taking them for credit.

PAYMENT OF FEES

All students who register will be expected to pay full tuition and fees prior to or at the time of registration.

Included in the payment of tuition is a \$10 deposit which is not refundable, even in the event that the student does not complete registration or attend school. For special students (those who do not carry ten or more hours) the non-refundable deposit will be \$5.

LATE REGISTRATION FEE

Late registration fees will be assessed all regular and special students for failure to complete registration on scheduled dates. (No exception is made regardless of reason for being late.)

Failure to complete registration on scheduled dates.

1. First five regular school days following the scheduled registration date \$ 5.00
2. After the fifth day following scheduled registration date 10.00

Late fees for special students will be assessed at 50 per cent of the rate for regular students.

Any student whose check is dishonored by his bank will be charged the late fee in effect at the time the check is redeemed.

REFUNDS—COLLEGE STUDENTS

In the event of withdrawal by a student, a refund will be made on the basis of a charge of \$10 (\$5 for special student) plus a per day charge of 1.4 per cent of the total tuition and fees paid or payable for the semester. The days charged for will be the school days beginning with the first day of the semester on which classes were held following the date on which the student registered, to the day on which the student reported his withdrawal to the Office of the Dean of Students, both days inclusive.

Any refund due a student because of withdrawal from school will be made only by check, through the mail, two weeks from the date on which the student reported his withdrawal and surrendered his receipt or activity card to the Office of the Dean of Students.

No refund will be granted to a student who is requested to withdraw for scholarship or other causes.

No refunds will be made directly to unmarried students under twenty-one years of age unless the student has the written permission of his parents or legal guardian.

MISCELLANEOUS GENERAL FEES AND FINES

Graduation fee, bachelor's degree	\$10.00
Graduation fee, master's degree (includes printing of thesis abstract)	20.00
General College two-year terminal certificate	5.00
Late application for graduation fee (for those who apply after January 15 for June Commencement and after March 15 for August Commencement)	3.00
Late orientation fee (charged all freshman and sophomore students registering at the University for the first time who do not report to the campus at indicated time on the officially scheduled day for placement tests and orientation work preliminary to registration day)	3.00
Identification photo50
Change of registration fee, for each change slip presented after the first week of each semester	1.00
Change of grade fee (unless the change is the responsibility of the University)	3.00
Examination, special equivalency, per credit hour (the maximum fee in any one subject shall not exceed \$45)	7.50
Duplicate activity card	1.00

Transcript fee	1.00
(\$1.00 for first copy on every order, plus \$.50 for each additional copy)	
Automobile registration and parking fee:	
Beginning of school year	5.00
Beginning of Second Semester	3.00
Traffic violation fines	1.00 to 5.00
Thesis binding (4 copies)	11.00 to 13.00
Registration in Evening School. (All daytime students will be required to pay an additional fee of \$3 per credit hour for all hours carried under the Evening School Program.)	

FEES FOR INSTRUCTION IN MUSIC

(15 lessons per semester)

Bos, Jacob	\$50.00	Madsen, Franklin	50.00
Bradley, Adine	60.00	Mathews, Arminta	55.00
Bradshaw, Merrill	50.00	Martino, Daniel	60.00
Cundick, Robert M.	55.00	McAllister, J. W.	45.00
Curtis, Brandt	55.00	McMurdie, Maughan W.	45.00
deJong, Gerrit, Jr.	70.00	Nelson, Elmer E.	55.00
Earl, Don	60.00	Nibley, Richard	60.00
Fitzroy, George W.	50.00	Nordgren, Quentin R.	50.00
Freed, David B.	70.00	Sardoni, Lawrence	55.00
Fuerstner, Carl	80.00	Terry, Elvis B.	50.00
Gates, Crawford	65.00	Wakefield, J. Homer	50.00
Halliday, John R.	70.00	Weight, Newell	60.00
Keeler, J. J.	55.00	Weinzinger, Kurt	55.00
Laycock, Harold R.	55.00	Wilkes, William L.	45.00
Laycock, Ralph G.	60.00	Woodward, Margaret	50.00
Madsen, Florence J.	55.00	Woodward, Ralph	55.00

FEES FOR PRIVATE INSTRUCTION IN SPEECH

(15 lessons per semester)

Bateman, LaVar	38.00	McKinlay, Lynn A.	38.00
Clinger, Morris M.	38.00	Mecham, Merlin J.	38.00
Gledhill, Preston	38.00	Morley, Alonzo J.	38.00
Hansen, Harold I.	38.00	Rich, Owen S.	38.00
Jex, Lorin	38.00	Woodbury, Lael J.	38.00

FEES FOR SPEECH CLINIC

An out-patient fee of \$40.00 per semester is charged for rehabilitation service in the speech clinic. Such service is offered regularly enrolled students without any charge.

FEES FOR DEPARTMENTAL FACILITIES AND SERVICES

English 10 (Preparatory English of sub-college level)	\$10.00
English 15 (Remedial English for juniors)	15.00
Food and Nutrition 240, 340 (Menu Planning—Meal Service)	3.50
Health Education 110 (Driver Education)	10.00
Horticulture 112 (Flower Arrangement)	10.00
Human Development and Family Relationships 322	4.50
Human Development and Family Relationships 422	9.00
Instruction (Elementary) 345, 448, 449	(complete) 45.00
Instruction (Secondary) 377, 478, 479	(complete) 45.00
Nursing 211, 212 (Fundamentals Laboratory)	1.50
Physical Education 131, 132 (Golf)	7.50
Physical Education 135, 136 (Skiing)	10.00
Physical Education 137 (Hiking)	5.00
Physical Education 138 (Outing Activities)	5.00
Physical Education 160, 161 (Swimming)	10.00
Physical Education 164 (Life Saving)	10.00
Physical Education 165 (Water Safety Instruction)	10.00
Physical Education 166 (Canoeing)	7.50
Physical Education 233 (Sports Fundamentals) Majors—Men	6.00
Physical Education 235 (Sports Fundamentals—Swimming) Majors—Men	10.00
Physical Education 127 (Bowling)	10.00
Recreation 123 (Skills and Techniques for Outdoor Recreation)	12.00

RENTALS

Woodwind, brass, and string instrument rental per instrument per semester	\$12.00
Harp, harpsichord, organ rental, one hour each day, per semester	15.00
Piano rental, one hour each day, per semester	7.50
Each additional hour per day, per semester	6.00
Practice room without piano, one hour each day, per semester	4.50
Each additional hour per day, per semester	3.00
Locker rent (McKay Building and Eyring Science Center):	
1 semester	1.50
2 semesters	2.50
2 semesters and summer term	3.00
Key deposit	1.00
Replacement of lost key	1.00
Locker rent (for high school students, Education Bldg.) school year	1.50

Fifty cents is returnable on return of key. If students share a locker, there is an additional 50c for each additional key issued. The 50c for each such key is refunded on return of key.

DEPOSITS

Gymnasium towel check and padlock deposit (Maximum refund is \$2.50) ..	\$ 3.00
Botany 175 (Microtechniques)	2.00
Botany 550 (Plant Physiology)	2.00
Botany 706 (Experimental Ecology)	2.00
Botany 712 (Plant Nutrition)	2.00
Industrial Education	1.00
Chemistry (each laboratory class)	1.00
Civil Engineering 202, 203, 204	1.00
Air Science (All AFOTC students) (Fifty cents will be retained for flight insurance.)	14.00

Fees for Lab Schools**SECONDARY SCHOOLS**

Senior high school—10th, 11th, and 12th grades	\$30.00
Junior high school—7th, 8th, 9th grades	20.00
Special students in secondary laboratory school, per unit	7.50

Secondary laboratory school students who register any time during the first semester shall pay the full year's fees. Those who register the second semester in the junior high school shall pay \$11.00 and in the senior high school \$17.00, which amounts include the late fees.

A high school student authorized to register for college courses shall pay in addition to the high school fees \$6.00 per credit hour, but the maximum charge for the high school and college courses shall not exceed that charged a college student for the same period.

ELEMENTARY SCHOOL

Kindergarten to the sixth grade, for the full year	\$15.00
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Elementary laboratory school students who register any time during the first semester shall pay the full year's fee. Those who register during the second semester shall pay \$8.50, which includes the late fee.

COLLEGE OF FAMILY LIVING NURSERY SCHOOL

Fee per child, per semester	\$30.00
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LATE FEE IN LABORATORY SCHOOLS

A late fee of \$2.00 will be charged all junior and senior high school students who register after the first week.

A late fee of \$1.00 will be charged all elementary training school students who register after the first week.

REFUNDS—LABORATORY SCHOOLS

A refund of \$25.00 will be made to any senior high school student who withdraws during the first or second week of the first semester. A refund of \$15.00 will be made to any student who withdraws after the second week and at or before the end of the semester, but no refund will be made thereafter.

A refund of \$15.00 will be made to any junior high school student who withdraws during the first or second week of the first semester. A refund of \$10.00 will be made to any student who withdraws after the second week and at or before the end of the first semester, but no refund will be made thereafter.

A refund of \$5.00 will be made to any elementary training school student who withdraws before the beginning of the Christmas holidays, but no refund thereafter.

No refund will be granted to a student who is requested to withdraw for scholarship or other cause.

The activity or receipt card must be surrendered when a refund is received.

Estimated Cost

The expense of a year's study at Brigham Young University is surprisingly reasonable. It will depend a great deal on how much a student can or wants to spend. Basic minimum costs for a two-semester school year are:

Tuition	\$ 180.00
Building, student activity, health and gymnasium fees— \$40 per semester	80.00
Books and supplies	60.00
Board and room	580.00
Personal expenses	100.00
	<hr/>
	\$1000.00

A recent nationwide study of the costs per year for tuition, board and room, and fees at private colleges indicates average spending of \$1,485 per student. This amount, which does not include personal expenses, is approximately fifty per cent above comparable costs at B.Y.U.

The estimate of \$1000 does not provide for an automobile or clothing or transportation from distant points. The cost will obviously vary with married or single students and with young men or young women. For those doing their own house keeping, either on or off campus, the cost of board and room can be materially reduced. Some students without automobiles have spent for an entire year as little as \$750. Others with automobiles have spent as much as \$1,500. Except for those who travel back and forth to their homes each day, an automobile is unnecessary and often a hindrance to proper study.

Student Personnel Services

The Student Personnel Services offices are responsible for the welfare of students in the following areas of University life:

Academic Standards	Scholarships, Fellowships and Academic Grants
Counseling Service	Security and Traffic
Financial Aids	Student Employment and Placement
Foreign Students	Student Housing
Health Services	Student Organizations and Social Life
Indian Students	Student Publications
Orientation	Women's Activities
Scheduling	

Dean of Students

The Dean of Students is director of the Student Personnel Services. As such, he is expected to coordinate the agencies at work on student problems. He initiates and recommends to the President and the University Council needed policies and procedures in student life. It is his responsibility to administer the program recommended or approved by the President in the various areas of the Student Personnel Services.

Counseling Service

The administrative officers at Brigham Young University are well aware that new students are faced with many problems as they begin their college life. The primary function of the Counseling Service is to help normal students to make realistic decisions regarding their college careers. All entering students are expected to make an appointment with a counselor so that they may avail themselves of professional assistance. The Counseling Service provides the following services for the University: (1) counseling—educational, vocational, and other personal problems; (2) psychiatric; (3) testing; (4) occupational information; and (5) help with study and reading skills. The Counseling Service also coordinates the University Tutoring Program.

Counseling. The counselors offer assistance to each individual student, helping him to make wise decisions in connection with educational, vocational, and personal problems. The mature student will accept responsibility for the decisions arrived at in such counseling sessions.

Psychiatric Service. Limited psychiatric service is available for students with serious emotional problems. A psychiatric team composed of a psychiatrist, clinical psychologist, and a psychiatric social worker is available to make evaluations and recommendations concerning treatment. Limited psychiatric treatment is available for students who can be treated in a university setting. Such treatment is not available for all students, and referrals are often made to private agencies either in Utah or in the students' home towns. As in the case of all other counseling done in the Counseling Service, complete confidentiality is maintained.

Testing. Tests of achievement, ability, interest, and adjustment are given to all new lower division students. The data from these tests are used as a basis for counseling in educational, occupational, and personal problems. Although the basic tests are given to all new lower division students, upper division and graduate students may avail themselves of the tests. The testing service provides psychological test data for the use of counselors and registration advisors, placement tests for various academic groups at the University, and assistance in the

preparation, administration, and scoring of subject-matter tests as requested by various departments in the University.

Occupational Information. A comprehensive, current collection of essential occupational information is maintained in the Counseling Service Library. Current catalogs of the major universities and technical schools are also on file. These materials are available to all students seeking information about particular vocational opportunities or information about employment in general.

Study and Reading Skills. A study skills laboratory is maintained for use of all students for the improvement of their study habits. Remedial reading groups are formed each semester to give assistance to students who have difficulty reading college materials. Emphasis in the reading groups is placed on improving the student's general reading ability, not on speed alone. Application for membership in these groups is initiated by contacting the Counseling Service receptionist. Reading materials and equipment are also available to help the student increase his ability to read. (English 20 and Psychology 10 provide additional help, and a non-credit class in developmental reading is offered each semester by Adult Education and Extension Services.)

Counselor for Women

Of special assistance to women students is a counselor for women. She is a member of the Student Personnel Services staff and the Counseling Service staff. The counselor for women is available throughout each day to assist women students in solving personal problems.

Foreign Students Adviser

Services of the foreign students adviser are available to all students from countries outside of the United States. All alien students are expected to clear with him. Foreign students coming to the University should report first to Room 216, Temporary Office Building No. 2, which is the office of the adviser to foreign students.

American Indian Students Adviser

American Indian students wishing to take advantage of services provided by the Adviser to Indian Students should go to the Indian Education Office, Room 2044, Temporary Office Building No. 2. These services are available to the individual student only as he elects to seek them.

Scholarships, Awards, and Financial Aids

The University awards annually to undergraduate students a significant number of scholarships and awards. These are granted on the basis of demonstrated academic ability and outstanding achievement in the areas of speech, drama, music, art, dance, journalism, and other subjects. Tournament and contest winners sometimes receive these awards.

The University awards grants-in-aid to deserving students of good academic ability who have critical economic need. A considerable number of loans are made to worthy and needy students. These are available to all students on the basis of their qualifications and need for financial assistance.

The Latter-day Saint Church has made funds available for long-term loans. Active, faithful members of the Latter-day Saint Church in critical financial need are eligible to apply for these loans.

Scholarships and grants-in-aid are applied toward the payment of tuition and fees. Any scholarships or grants-in-aid may be withdrawn at any time for

academic or other good and sufficient reasons if, in the judgment of the selecting committee, the recipient has already demonstrated his failure to comply with both the spirit and letter of the original terms of the scholarship or grant-in-aid.

The University also awards grants-in-aid to selected student-athletes who can qualify under the rules and regulations of the Mountain States Athletic Conference to be eligible for athletic grants which may include part or all of the student's commonly accepted educational expenses as defined by the NCAA. A student-athlete must meet either of the following recommendations:

- a. If a freshman, he must have been rated academically as in the upper two-thirds of his high school graduating class. For the first year, such award shall be made for the entire school year.
- b. If not a freshman, the student must be in good academic standing and not on probation. Such award shall be made on a semester basis.

Graduate students are also eligible for scholarships, fellowships, and grants. For further information see the Graduate Catalog.

All scholarships, fellowships, assistantships, and academic grants are under the jurisdiction of a central committee which alone has the authority to promise or grant an award. All applications for these recognitions should be made to the chairman of the Committee on Scholarships, Fellowships, and Awards.

University Standards

The maintenance of standards of honor and integrity, of graciousness in personal behavior, of Christian ideals in everyday living, of a high standard of morality, and of abstinence from alcohol and tobacco is required of every student. A student's having improper associates or visiting places of questionable repute will not be tolerated.

Any pronouncement of disciplinary measures made by the President of the University becomes a part of these regulations. Violations of regulations may make the offender liable to suspension or expulsion from the University.

Academic Standards

Students of the Brigham Young University are expected to attain the following minimum grade-point average for their particular class in school:

First semester freshmen (0-18 hours accumulated credit prior to the beginning of the current semester): 1.50.

Other freshmen and sophomores (19-62 semester hours): 1.75.

Juniors, seniors and graduates (more than 62 semester hours): 2.00

Grade-point averages are computed on the basis of A equals 4, B equals 3, C equals 2, D equals 1 and E, WE and UW each equal 0.

Low scholarship may place a student in one of the following categories:

1. Students failing to maintain the cumulative minimum grade-point average for their class are placed on academic warning.
2. Students on academic warning who fail to attain the minimum average for their class during any semester they are on academic warning are placed on academic probation and are limited as follows:
 - a. Allowed to enroll only for a maximum of 14 hours.
 - b. Not eligible for any scholarships, grants-in-aid, or student loans.
 - c. Restrained from participating in any activity such as student plays, musical programs, off-campus intercollegiate athletics, debate teams,

cheer leaders, student body officers, etc. in which they represent B.Y.U. before the public.

3. Students on academic probation who fail to attain the minimum grade-point average for their class are suspended from the University for low scholarship. Freshmen students entered on probation are allowed two semesters of below-standard work before being suspended from the University.
4. Students who fail to attain a 1.00 (D) grade-point average for a particular semester who are in good standing are placed upon academic probation. Those who are on probation or academic warning at the time they receive less than a 1.00 average are suspended from the University for low scholarship.
5. Students transferring and readmitted to the University either on probation or academic warning shall be subject to the same rules as students on academic probation listed in paragraph number 2 above.

Placement Bureau

The Placement Bureau, located in the east end of the Herald R. Clark Student Service Center, exists on the campus for the purpose of assisting graduating students and alumni to find desirable positions in their fields in business, industry, government, and education. This office works in close cooperation with deans and department chairmen.

The placement service includes a placement library where interested students may find books, articles, magazines, and brochures that will acquaint them with companies in which they may be interested and also books and pamphlets which will give advice on such matters as how to conduct oneself in an interview, how to write effective letters of application, how to find employment, etc.

All students are urged to register with the Placement Bureau early in the school year in which they will graduate so that that office may prepare early to give the most effective possible assistance in finding employment for each graduate.

Student Employment

In the Placement Bureau, assistance is given to students in finding part-time employment. This includes help not only in placing students in positions on the University campus but also in finding part-time employment off campus and in finding work for board and room.

Students are encouraged not to attempt to earn their entire way through school. Such a program leaves little time for academic work (see scholarships). It is important to note that there is a maximum limit on the number of hours which a student may work on campus.

Students are urged to register with the Placement Bureau as soon as possible after they arrive in Provo and are available for work. Factors which weigh most heavily in deciding who shall receive leads for jobs are need, hours available, and possession of skills required by employers. Inasmuch as the number of students seeking part-time work is very high, those whose need is great are requested to report regularly at the Placement Bureau after filing their initial applications.

Students from foreign countries are required to obtain a work permit before they may take employment. Such students may receive assistance in obtaining the necessary permit from the foreign students adviser. Students under eighteen who succeed in locating employment are required to obtain a work permit. Instructions concerning this are available in the Placement Bureau.

Student Health Service

The Howard S. McDonald Student Health Center on University Hill accommodates the health services, comprised of a large out-patient clinic and a small in-patient unit for cases requiring bed care. The center functions 24 hours daily, 7 days a week during school terms and is available to any regularly enrolled full-time student whose fees include these services for the quarter in which he is registered. Summer students are included. Medical care to all eligible students is limited to the facilities and personnel in the health center.

The following services are provided without extra charge:

1. An initial complete physical examination, required of all entering students, to be performed at the health center and to include screening chest X-ray, audiometry and urinalysis. This examination is also mandatory for students re-entering after a two-year absence.
2. Consultation with general physicians and specialists, by appointment, in the health center during regular clinic hours, 8:30 a.m. to 4:30 p.m. This includes a specialty clinic in orthopedics, general surgery, gynecology, internal medicine, and chiropody.
3. First aid treatment any time during the twenty-four hours of each day.
4. Immunizations as required for smallpox, diphtheria, or typhoid.
5. Physical therapy as recommended by a health center physician.
6. Routine laboratory tests.
7. Seven days of bed care in any one quarter in the health center, as recommended by a health center physician, after which a minimum charge of \$2.50 per day will be made. This includes post-surgical convalescence, the private physician continuing in attendance.
8. Certain procedures of public health importance, such as tuberculin tests, follow-up studies in infectious diseases, etc.
9. Within the limits of its personnel and facilities, and at the discretion of the director, the treatment of chronic disease suffered by students.

Some services require an additional charge and are supplied to the student at cost. These are:

1. Meals while a patient is in the center.
2. Drugs on prescription of a health center physician.
3. Special diagnostic laboratory tests.
4. Special immunizations, i.e. Poliomyelitis, influenza, etc.
5. X-rays other than "screening" films. The health center regularly employs the technical personnel to take and interpret the X-ray films. The student pays only the cost of materials.
6. After-hour calls by a physician in the clinic. The student pays \$2.00, the health center \$3.00 for each call. For house calls, the charges are double, both for student and the health center.
7. Rental of crutches.
8. Immediate notification of parents or guardian by the health center when a student is taken acutely ill.

Services **not** available:

1. Major surgery or off-campus hospitalization, except in instances where an injury is sustained while the student is representing the University through official assignment.
2. Dental service.
3. Obstetric services.
4. Eye refractions, glasses, prostheses, hearing aids, etc.
5. Ambulance service.

STUDENT BLUE CROSS-BLUE SHIELD PROGRAM

To complement the services of the Student Health Center, Blue Cross-Blue Shield Hospital, Medical and Surgical protection is now available to all full-time students. This voluntary program is fully endorsed by the University and provides for a wide range of medical services at minimal costs. All students not otherwise protected by a health insurance plan are urged to accept this excellent plan specifically designed for our students. Full details are available from the Health Center.

Program and Personnel for Student Housing

The directors of Program and Personnel for men's and women's housing are responsible for the social, spiritual, cultural, and educational aspects of housing. (See Student Housing section.)

Security and Traffic

The Security Office is a protective agency established for the benefit of students, faculty, and staff. It maintains effective liaison with the local police department, and is entrusted with the proper enforcement of campus rules and regulations. All matters concerning security or requiring police action should be referred to this office.

Another major responsibility of the Security Office is the control of campus motor vehicle traffic and parking. In each academic year University staff members and students who operate motor vehicles in Utah County regularly or occasionally shall register any such motor vehicles with the University Traffic Department. In the case of students this is a registration for identification only, not a parking permit. All staff members and students who plan to park on University parking lots between 7 a.m. and 5 p.m. on school days must display a parking permit on their motor vehicles. The student parking fee is \$5.00 per year.

The Security Office also offers many other services to all students and staff members, including a Lost and Found Department; the taking of fingerprints necessary for teaching certificates, government jobs, and A.F.R.O.T.C.; and an ambulance service in connection with the Student Health Center.

All campus roads will be closed on Labor Day each year to preserve the private ownership thereof.

Student Organizations

Student activities are organized in such a way as to offer maximum opportunity for training in leadership and self-government and to provide a well-balanced program of individual and group development. Numerous student organizations have been set up to realize effectively such an objective. All student organizations on the campus conduct their affairs in accordance with a basic philosophy designed "to provide for a broad program of social, cultural, and recreational opportunities in which students are encouraged to participate." Membership is open to students who qualify and remain qualified according to the rules and regulations set up by each organization. All students are urged to become affiliated with some group and thereby derive the benefits that only group experiences can bring. In order to coordinate organizational activity, to eliminate duplication of effort, and to lend continuity from year to year, supervision of student organizations is provided by the Dean of Students through the office of the coordinator of student organizations.

Associated Students. Associated Students is an organization composed of all students who attend Brigham Young University and presided over by officers

elected by them. It seeks to develop interest on the part of every student in those activities which contribute to a more democratic "Y" spirit and to provide opportunities for all students to participate in a well-rounded program of out-of-class activities. **However, no student is allowed to participate in out-of-class activity if he is either on academic or disciplinary probation or carrying less than a ten-hour academic class load.** Through this organization, student traditions are kept alive and all interclass and intercollegiate activities are encouraged and unified. Social, forensic, dramatic, and musical activities are fostered under its management, and through it the students publish the *Daily Universe*, the *Wye Magazine*, the student directory, and the *Banyan*. The organization also functions as an auxiliary of university discipline through the activities of the Honor Council and the Inter-Organizational Council court system.

Associated Men. All men students registered are members of the Associated Men. This organization is designed to promote specific interests of "Y" men and to foster a wholesome atmosphere on the campus. The Executive Council, consisting of three student leaders and a faculty counselor, supplemented by the twelve members of the "Y" Men's Council, forms the governing group.

Associated Women. Associated Women is an organization comprising all women registered in the University. Its purpose is to aid and foster all women's activities. The organization, advised by the counselor for women, is a member of the Western Division of the National Organization of Associated Women Students, which includes most of the universities and colleges in the United States.

Class Organizations. Members of the four classes and the Graduate School are organized for the purpose of developing common interests and class spirit as each class proceeds through the University and into the Alumni Association. Meetings of the classes are held periodically, with a limited number of social functions planned by class officers.

Executive Council. The Executive Council consists of the president, vice-president of social activities, vice-president of student relations, vice-president of cultural activities, and vice-president of finance.

Student Senate. The Student Senate is a legislative body consisting of representatives from the entire student body and representatives from the classes. The senate considers studentbody problems and initiates action for the welfare of the student body.

Inter-Organization Council. The Inter-Organization Council is an organization composed of representatives from student organizations to help govern organizational activities. It derives its authority from the Executive Council.

Honor Council. The Honor Council is a group of sixteen students appointed by the student senate and functioning as a counseling body with sub-committees to promote the honor system, to which all students are expected to adhere.

Student Publications

Under the supervision of the faculty adviser to student publications, four publications are sponsored in order to serve the University and its students and to give opportunities for student expression and development through publications activities.

Newspaper. The *Brigham Young Daily Universe* is published daily during the first and second semesters and semi-weekly during the summer term. Opportunity is given students for valuable experience in news writing, editing, photography, photo-engraving, and advertising.

Yearbook. Named for the oriental tree which symbolizes the widening friendships formed on the campus, the *Banyan* is the students' photographic and artistic record of each year's activities. Portraits of all students and faculty members are included.

Magazine. The *Wye*, published each semester, contains student-written poetry, stories, and non-fiction. Several awards are given for the best art work, photography, and writing published.

Directory. An annual directory of Brigham Young University students and faculty is published in the first semester. Compilation of the directory material and sale of copies are sponsored by White Key, women's honorary service organization.

Professional and Departmental Organizations

The University encourages organizations which have the specific purpose of bringing together persons of similar scholastic and professional interests and of rendering their work more pleasurable and profitable. Each group fosters the activities of the department to which it is allied. Eligibility requirements are those of departmental affiliation and general scholarship as determined by the individual organizations. Fees are reduced to a minimum. Each organization has a faculty sponsor.

Service Organizations

There are on campus several organizations, the primary function of which is to render service to the University. Some of these are for men and some for women. Eligibility requirements are established by each organization, and each has a faculty sponsor.

Social Units

Within the program of student organization, provision is made for men's and women's social units. Activities in these organizations are provided in accordance with the basic philosophy of student organizations and are established on the basis of common social interests, friendship, congeniality, and cooperativeness. These organizations furnish numerous opportunities for student participation both individually and in groups. The competitive spirit is fostered in such activities as the Homecoming Parade, the Song Fest, and the Snow Carnival.

Geographical Organizations

Geographical clubs are organized to further social enjoyment and acquaintance among students from the same localities. They are particularly helpful to students during the early semesters of school, before these students have found their way into the other social activities of the campus. Such clubs also are helpful in maintaining a close bond of interest between the student and his home.

Non-Student Organizations

B.Y.U. Women. The purpose of the organization known as B.Y.U. Women is to foster the ideals of the institution and to help furnish recreation and social amusement for the faculty. A woman is eligible for membership in this organization and becomes a member on payment of dues provided that at the time she seeks admission she is either (1) a present faculty member (A faculty member is one who holds at least the rank of instructor.), (2) a past faculty member, (3) a matron, (4) a board member, (5) the wife of a faculty member who has died in the service of the school, (6) the wife of a present faculty or board member.

The Society of the Sigma Xi. The Society of the Sigma Xi is a national organization devoted to the encouragement of research in pure and applied science. The local unit is known as the Brigham Young University Chapter.

Members of the Society of the Sigma Xi on the staff at Brigham Young University organized a Sigma Xi club in 1935. Since that time it has remained continuously intact, encouraging research and other activities in the various branches of science. A petition for chapter standing was submitted by the local club in 1949. A chapter was granted by the National Society of the Sigma Xi, and formal installation took place October 17, 1950.

Specific local projects include the sponsoring of a national Sigma Xi-appointed lecturer, the promotion of several lectures by prominent scientists within the unit and from nearby institutions, an annual Sigma Xi lecture by a member of the chapter, the awarding of an annual medal to an outstanding student for the completion of a research project, and the direction of possible sources of research funds in the interest of pure and applied science.

Religious Opportunities

Brigham Young University students have excellent opportunities for participation in religious activities. Among the means available are the following:

Brigham Young University Stake. Brigham Young University Stake, composed of twenty-six wards and organized specifically for students, provides maximum opportunity for active participation in the program of the Church. Spiritual growth and the development of a strong testimony are goals fostered by the stake and ward organizations, whose programs are closely integrated at all levels with that of the University.

All single students living away from home establish their membership records in one of the wards of the stake. Married students who attend the University may elect to have their membership records either in a ward of B.Y.U. Stake or in a nearby ward in which they reside. Membership records of students remain in B.Y.U. Stake until they terminate their schooling at the "Y."

Religious Organizations. In addition to the twenty-six wards on campus, several organizations are primarily religious in nature but also are social and service groups. Membership in some of these organizations is limited to returned missionaries while others are open to any interested student.

Devotional Assemblies. Devotional Assemblies, held each Wednesday, enable students to hear messages of spiritual power and depth from carefully chosen Church leaders. It is contemplated that during each year all members of the First Presidency and of the Quorum of The Twelve Apostles will address the student body in the Wednesday devotional assemblies.

Student Assemblies

Throughout the academic year a student assembly is held each Friday at 10:00 a.m. as a part of the regular program of the University. The Friday hour set aside for outstanding student entertainment is an important part of student life and should likewise be a definite part of the student's schedule.

Lyceums and Forums

Almost since its founding, Brigham Young University has been bringing to its students distinguished men and women in arts and letters. The lyceums are evening programs of cultural value. Forum assemblies, held each Monday morning, feature speakers and artists who can offer students a better understanding

of our contemporary civilization. During the 1959 Summer Quarter and the 1959-60 regular school year, the following have appeared or are scheduled to appear on the lyceum or the forum series:

Diran Akmajian (summer)	Tenor
Pierrette Alarie, soprano; and Leopold Simoneau, tenor	Joint Recital
Marian Anderson	Contralto
Lloyd J. Andrews	Washington State Superintendent of Public Instruction
George S. Benson	President of Harding College
Stanley L. Brady (summer)	Clinic Band Conductor
John Mason Brown	Author, Drama Critic
Robert Brownlee (summer)	Pianist
William J. Buckley, Jr.	Editor, Author
Carmen Cavallaro	Pianist
Gordon Childs (summer)	Clinic Orchestra Conductor
Honorable George Dewey Clyde	Governor of Utah
Howard Pierce Davis	World Affairs Analyst
Harry L. Dillin	President of Linfield College
Lee A. DuBridge	President, California Institute of Technology
Leonard Falcone (summer)	Clinic Band Conductor
Eileen Farrell	Metropolitan Soprano
William Fort, Jr. (summer)	Lecturer
Eddy Gilmore	Foreign Correspondent of the Associated Press
Harry Golden	Editor, Author
Hubert Herring	Historian, Authority on Latin America
Katherine Hilgenberg (summer)	Contralto
Maurice Hindus (summer)	Author, Lecturer
Helen Hinckley Jones (summer)	Lecturer
Helen Kirkpatrick	Author, Journalist
William E. Mayer, M.D.	Psychiatrist
Jacqueline McKenzie	British Comedienne
Gerald Moore	"The Unashamed Accompanist"
Rt. Honorable Anthony Nutting	Former British Minister of State for Foreign Affairs
Paganini Quartet (summer) ten concerts; Henri Temianka, Charles Libove, David Schwartz, and Lucien Laporte	
C. Northcote Parkinson	Historian, Author, Educator
Flor Peeters	Belgium Organist
Herbert Philbrick	Author, Lecturer
Vincent Price	Star of Stage, Screen, Radio and Television
Benno and Sylvia Rabinoff	Violin and Piano Duo
Hans Richter-Haaser	German Pianist
Josette and Yvette Roman (summer)	Duo Pianists
General Carlos P. Romulo	Philippine Ambassador to the United States
E. Merrill Root	Lecturer
Roth Quartet: Feri Roth, Thomas Marrocco, Irving Weinstein, Cesare Pascarella	
Mstislov Rostropovich	Soviet Cellist
Roy Samuelsen	Baritone
Gerhart H. Seger	Author, Journalist
Vincent Sheean	Author, Journalist
Pessah Shinar (summer)	Lecturer
George Albert Smith, Jr. (summer)	Lecturer
Stanley F. Teele	Dean, Graduate School of Business, Harvard University
The Vienna Philharmonic	Conducted by Herbert Von Karajan
Trojan A Cappella Choir	Choral group from University of Southern California
Utah Symphony Orchestra	Conducted by Maurice Abravanel with Leon Fleisher, piano soloist
Vernon and Millie Von Konsky (summer)	Folk Dancers
Edward Weeks	Editor of Atlantic Monthly
Oscar O. Winther (summer)	Lecturer

Student Housing

Learning to live harmoniously with other people under the right kind of living conditions plays a vital part in a college education. Students living in groups, working, studying, and enjoying recreation together gain much from each other. The conversations, good fellowship, and activities experienced in group living contribute to a person's whole development. Participation in democratic, self-governing living activities brings about a phase of education which can be gained in no other way.

Each University residence hall is directed by a competent adult head resident who lives in the hall. (This may be a couple or a single woman.) Assisting each head resident are several senior residents—mature, advanced students—who live with the student groups. This gives each student a very close contact with the residence hall staff. Each student is known personally by the staff and has someone immediately available to assist him with normal student problems.

The residence hall staff, coordinated by a Director of Program and Personnel from the Dean of Students Office, carries out a residence hall program designed to provide each student experiences in democratic self-government, development in acceptance of responsibilities that go with maturity and independence, and assistance in learning the art and science of human relationships in working and living with others. The staff assists the student to achieve a sense of belonging, and to develop social competence through social and recreational programs. Head residents are available for general counseling. They carry out the residence hall program in cooperation with academic and other personnel services.

A program with similar objectives is extended to the students living in private homes. While there is not a staff member living in each facility, contact is established through staff members who devote full time to this responsibility as well as through the Associated Men and Women Students organizations.

Approved Housing

All students attending the University who are not living at home are required to live in University approved housing and to keep the University informed of any change of residence. Change of address cards are available at all housing offices and at the Information Booth.

Rental Agreements

Students planning to live either in campus housing or in off-campus residential housing may expect to sign a rental agreement for the accommodations they will occupy. Students should be prepared to live by the terms of these agreements once they have signed them. Many misunderstandings and financial losses can be avoided by students if they will read and familiarize themselves with the terms of the agreement before signing. All campus accommodations are available on an annual basis only.

Time of Arrival

Residence halls are not open to students prior to the announced opening date, usually the day before Freshman Orientation. The University does not advise students who are going to live in campus housing to arrive before that date. It is unwise for students with nothing to do to live in hotels and motels where there is no University supervision.

Through the listings available from the Residential Housing Office, accommodations in the community may be obtained in a comparatively short time. Very little time is required for a student to unpack and get settled whether it be on- or off-campus. It is best to arrive during office hours—8:00 a.m. to 5:00 p.m.

Campus Housing

The Office of Student Housing, under the Director of Student Housing, is established to assist students with their housing needs. It is located in the Herald R. Clark Student Service Center. All inquiries or administrative problems relating to housing needs should be referred to this office.

Applications

Students who enroll at the University and who wish to live in University residence halls should make inquiry at the earliest possible date to the Office of Student Housing. A housing application form will be sent to each inquiring student. A \$10.00 application fee should be enclosed with the completed application form when it is returned to the Office of Student Housing. Residence hall assignments and appropriate "agreement forms" are prepared on a basis of the date of receipt of the application form by the Housing Office.

Acceptance

The validating of any campus housing reservation is contingent upon the student's official acceptance and admission to the University.

Residence Halls for Women

Housing for 1,539 women is provided in 24 Heritage Halls. These are apartment-type buildings. Each apartment consists of a combination kitchen-dining-study room arrangement, three bedrooms, and a bath. In addition, there are large living rooms, a recreation room, head resident apartment, and laundry and storage facilities in each building. Six girls occupy an apartment and live co-operatively, preparing their own meals. The apartments are completely furnished except for bedding, kitchen utensils, and dishes. The facilities are excellent and offer a high standard of living for college students. The approximate annual rate for these accommodations is \$225.00. Food is purchased co-operatively by the residents of each apartment.

Help in the homemaking experiences of budgeting, buying, meal planning, and the selection, care and construction of clothing is available from specialists who are assigned to Heritage Halls. In addition, a specialist is available to assist students in planning social activities, developing recreational skills, and learning wise use of leisure time.

The University operates four residence halls for women where board and room are provided. These four halls, Amanda Knight Hall, Knight-Mangum Hall, Budge Hall, and Merrill Hall, house 886 students. The halls, completely furnished, provide every modern convenience, including well-planned food service. A trained head resident lives in each hall. The approximate annual rate for these accommodations is \$540.00.

Each woman student who desires to live on campus should consider carefully the type of accommodations desired in view of her economic needs, time available for activities within her housing situation, and type of experience desired. Agreements are made for the year, and moving from one type of accommodation to another during the year cannot be arranged.

Residence Halls for Men

Board and room services for 72 men are provided in a traditional type residence hall, the Allen Hall, located one block from the campus. It provides sleeping rooms, dining hall, living and social room, study room, head resident apartment, and adequate laundry and storage rooms.

Board and room services for 1170 men are provided in six new buildings known as Helaman Halls. These buildings form a beautifully designed residence hall development. There are five residence hall buildings, conveniently grouped around an attractively planned and developed central building. Each residence

hall accommodates 234 students, with two men sharing each bedroom. In addition, living rooms, study rooms, central shower areas, recreational rooms, adequate laundry and storage facilities, and a head resident apartment are found in each building. These halls provide some of the best student living experiences offered on any university campus. The central building features spacious dining rooms and a snack bar, providing the excellent food service for which B.Y.U. is noted. This building also contains beautiful living rooms, recreational areas, administrative offices, and other management facilities such as mail rooms, gun storage areas, and laundry and dry cleaning pick up stations. The approximate annual rate for these accommodations is \$540.00.

Graduate Homes for Men

Board and room services for a limited number of single graduate men are available in large homes used exclusively for graduate students. They are adequately equipped and provide for the specialized needs of the graduate student. The approximate annual rate for these accommodations is \$540.00.

Apartments and Homes for Married Students

Family accommodations for 350 married couples and their children are provided in housing developments known as Wymount Village and Wyview Village.

Wymount Village consists of 200 apartments (efficiency, one-bedroom and two-bedroom). These buildings were acquired from the federal government and moved to their present site following World War II. The maximum monthly rental rate approximates \$40.00.

Wyview Village consists of 150 prefabricated homes purchased in 1956 from a federal government airbase and moved to a site adjacent to the campus. There are 100 two-bedroom and 50 three-bedroom homes. The monthly rental rates approximate \$45.00 for the two-bedroom and \$50.00 for the three-bedroom homes. Each family, in addition, pays for its own electricity.

Applications for apartments or homes are placed on the waiting list according to the size of the family needing accommodations. There is a six-month waiting list at the present time.

Note: The Residential Housing Office can assist married students to find suitable apartments in the Provo community. Approximately 1,000 such units are available to married couples.

Residential Housing

In addition to the University Residence Halls there is University approved student housing in private homes in the communities of Provo and Orem which consists of sleeping rooms, apartments, light housekeeping, and board and room arrangements. To receive University approval these facilities must meet certain minimum specifications. Students living off campus are expected to abide by the living standards for student housing.

Listings

Up-to-date listings of approved facilities are maintained by the Residential Housing Office, 1271 North 900 East, Provo, Utah. This office is established to assist students upon their arrival in Provo to find suitable quarters if they desire to reside off campus. It is impractical for students to make arrangements with landlords by mail as listings change daily and many landlords like to interview their prospective tenants.

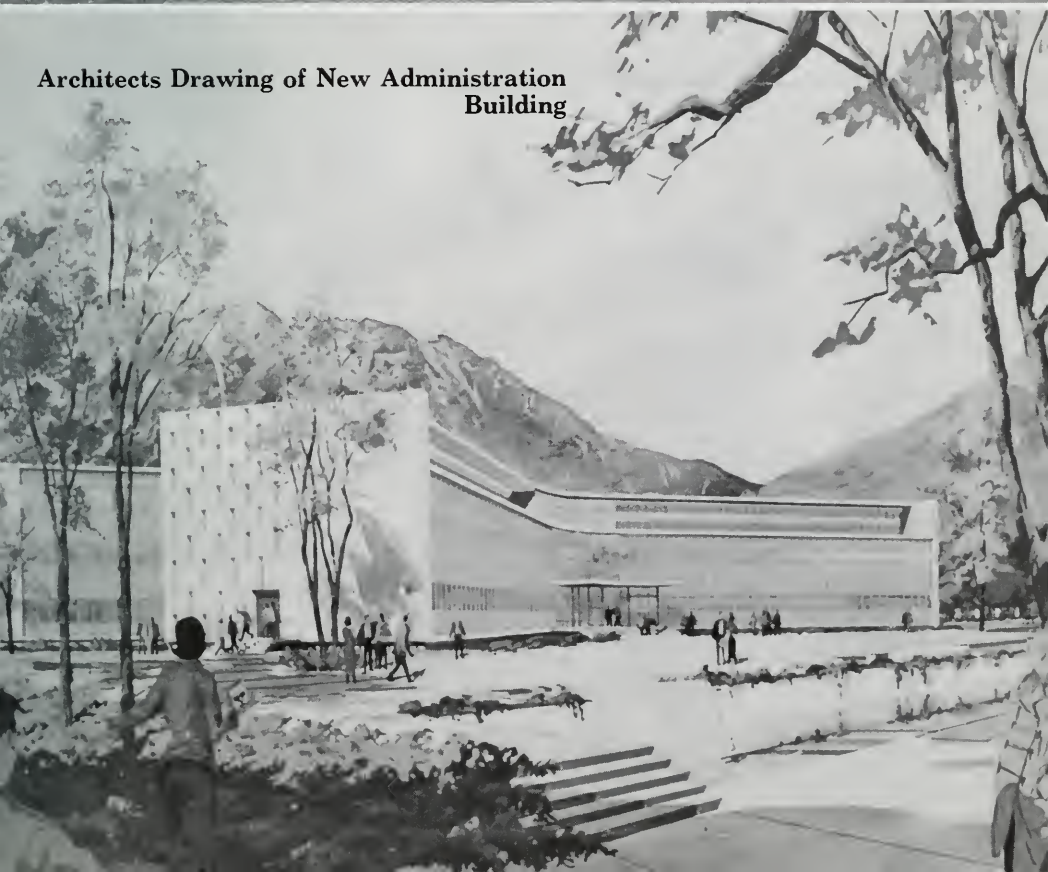
Rates

Rates for residential housing accommodations vary with the type of service provided, and consequently only a general indication can be given here. Sleeping rooms rent from \$13 to \$20 a month. Apartment accommodations run from \$14



Karl G. Maeser Memorial Building

Architects Drawing of New Administration Building





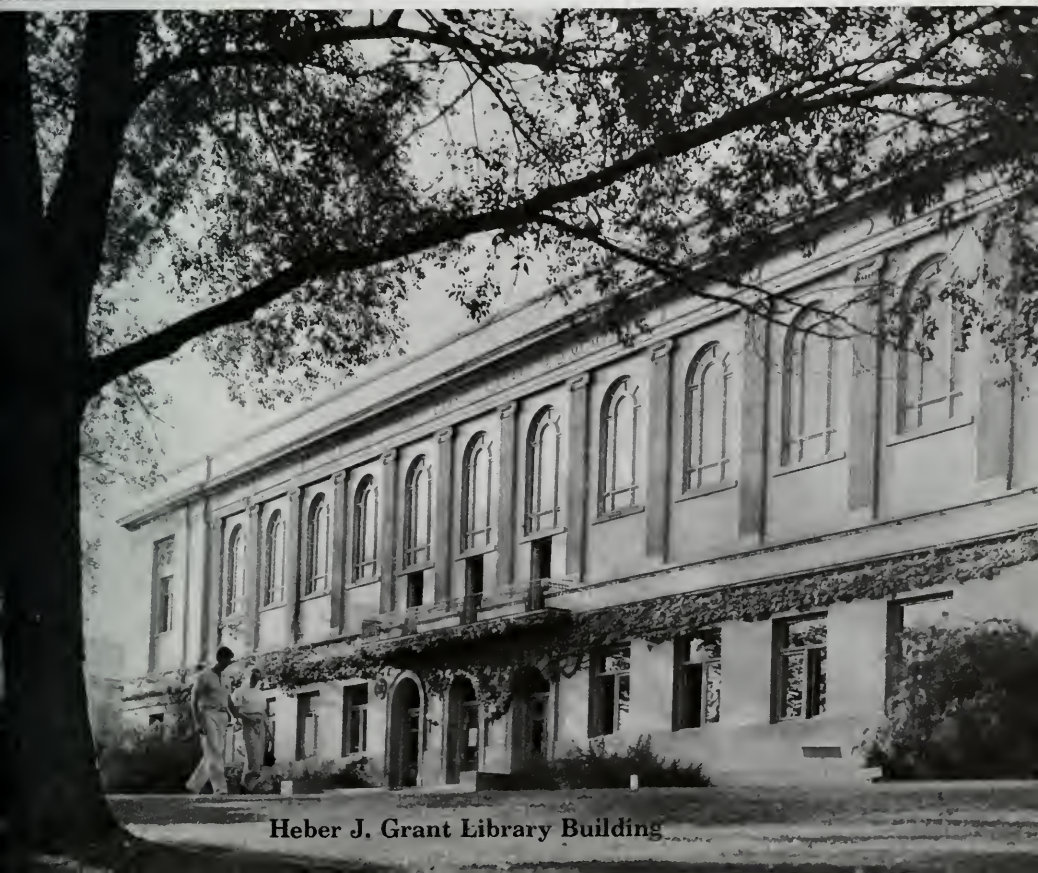
Carl F. Eyring Physical Science Center



David O. McKay Building with Smith Family Living Center
in the Background



George H. Brimhall Building



Heber J. Grant Library Building



Joseph Smith Memorial Building



Combined Chorus and Symphony Orchestra

Tom Read, B.Y.U. Debate
Coach Jed J. Richardson
and Craig Christensen —

Winners of the Harvard
Invitational Debate
Tournament



"The Intervals" — one of many popular
Entertainment Groups



Benjamin Cluff, Jr. Plant Science Laboratory





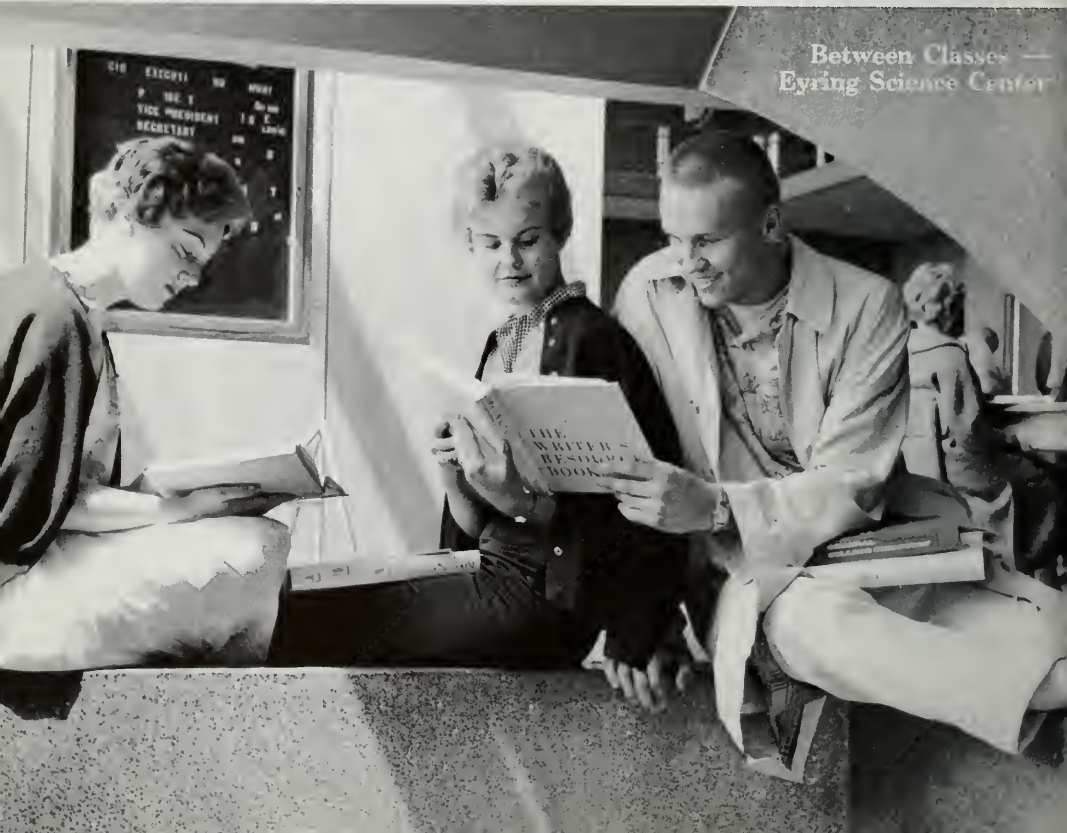
George Albert Smith Fieldhouse



Architect's Drawing of
New Library



Between Classes —
Joseph Smith Building



Between Classes —
Eyring Science Center



Dr. Delbert H. McNamara Examines New 24 Inch Telescope Atop Eyring Science Center



One of the Many Heritage Halls for Women



**Audience
Enjoys
Student
Assembly**



Students in Art Class

Architect's Drawing of New
College of Business Building



Intercollegiate
Basketball Game





Helaman Halls, Men's Residence Halls



Herald R. Clark Student Service Center



Students Working in Classroom
Center, Helmsdale, W.V.



Newly Completed William H. Smith
Industrial Education Building



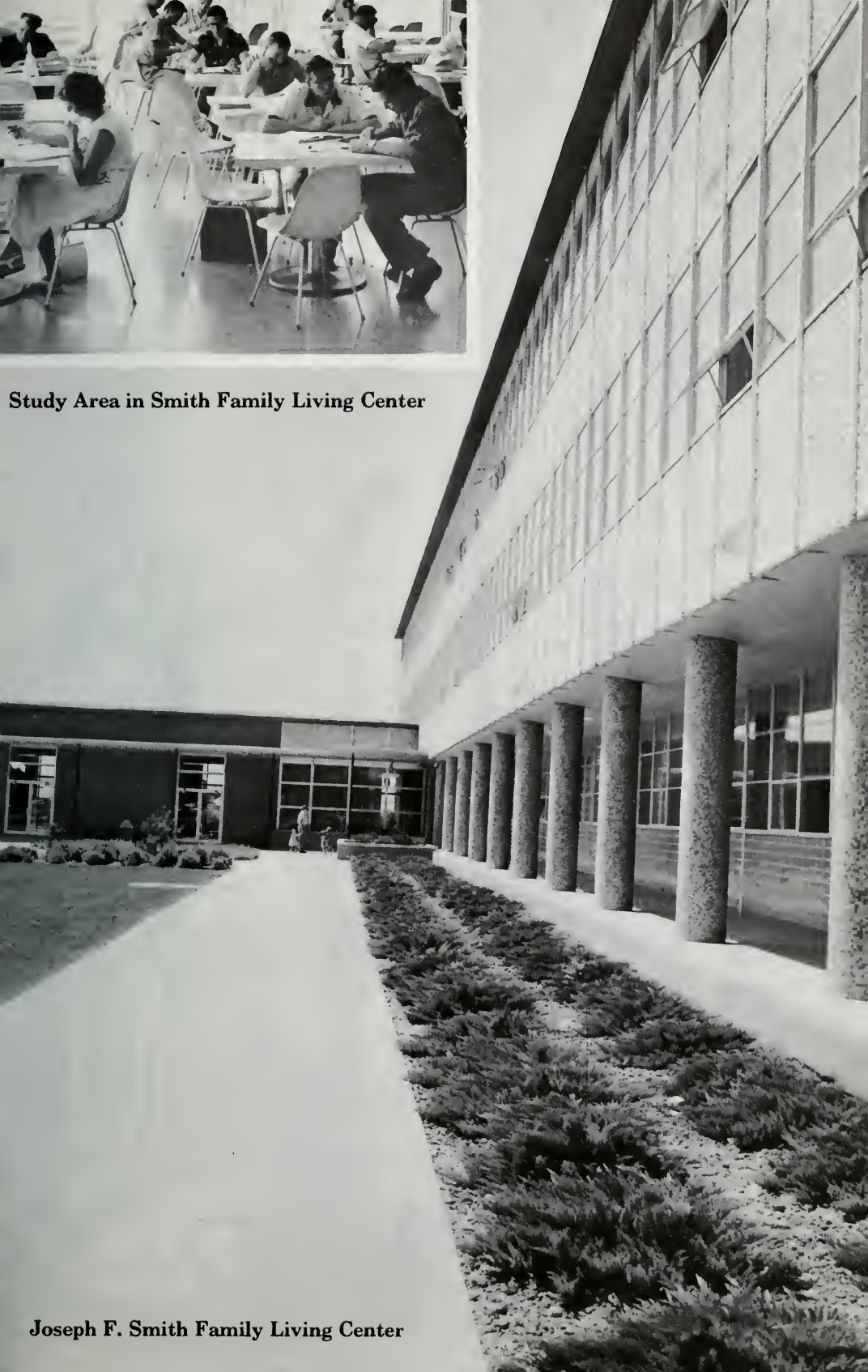
Shooting a Scene in the Motion
Picture Production Studio



Harvest Scene Near Campus



Study Area in Smith Family Living Center



Joseph F. Smith Family Living Center



Education Building, Lower Campus

to \$25 per month per student. Board and room is available at \$50 to \$65 a month. Apartments for married students can be obtained at a rate of approximately \$45 to \$70 per month.

Food Service

to \$25 per month per student. Board and room is available at \$50 to \$65 a reduced prices and eat at one of the campus cafeterias. Meals are also served at reasonable prices on a cash basis.

Auxiliary Services

The University has a number of business units which operate as part of the services provided for students and faculty. As a matter of general policy, these business units operate on a self-sustaining basis. They include functions such as housing, feeding, printing, motion picture production, purchasing, warehousing, receiving, mail service, creamery products, laundering, book store, and farm management.

Student Housing

The business and financial aspects of Student Housing, on campus and in the Provo community, are supervised from the Office of Student Housing. For details concerning these services, including student housing rates, refer to the section of this catalog titled "Student Housing."

Food Service

Regular meal service is provided for students at five different cafeterias on the campus. Four of these are operated as part of the board and room service of residence halls. It is possible for students living off campus to buy meal tickets at reduced prices and eat in three of these places. The fifth cafeteria is in the Joseph Smith Building, where meals are served at reasonable prices on a cash basis.

The University operates three snack bars, one in the Joseph Smith Building, a second in the George Albert Smith Fieldhouse, and a third in the Helaman Halls Cannon Center. Food is available in them throughout the day. Food may be secured through vending machines located throughout the campus. Costs of meals and food service are kept as low as possible, consistent with sound operating management.

The University also operates a creamery where milk, ice cream, and other dairy products may be purchased by students and faculty at very favorable prices. Students preparing their own meals find this service both desirable and economical.

Photo Studio

Located in the Eyring Science Center is a modern, fully equipped portrait and commercial photo studio, established to provide economical photographic service to students, faculty, and administrative departments. The best in modern production equipment is utilized to make possible efficient and high quality photographic workmanship. This studio has served the campus for twenty-five years. Any student or faculty member may take advantage of the services offered by this up-to-date department.

Post Office

The Postage and Mailing Department is located in the Student Service Center. Its function is to pick up and deliver all of the inter-campus mail, and to pick up and meter all of the outgoing U.S. mail. Two deliveries and three pickups are made each day on the campus.

Directory service is available for all mail addressed to Brigham Young University that does not indicate the department for which it is intended. This is true also for mail sent to students c/o Brigham Young University.

A U.S. Post Office Branch (Station 1, Provo) is located in the Student Service Center, where students can pick up and send mail. Individual rental boxes are available for student use.

Purchasing Department

The Purchasing Department is located in Room 272 of the Student Service Center.

Its services are designed to relieve faculty, other members of the University staff, and the Associated Students from certain duties of procurement. Through this department all purchase orders are issued for equipment, supplies, and services for the University, with the exception of library books, which are ordered by the library on special purchase orders.

Stores and Receiving

The Stores and Receiving Department is located in the metal quonset hut directly east of the Harvey Fletcher Laboratories Building. All deliveries are made here, and materials which have been received are inspected (with the exception of drugs, chemicals, zoological specimens, and delicate scientific instruments, which go directly to the department using them) before being delivered to the various ordering departments.

Students Supply Association

The Students Supply Association operates in the Herald R. Clark Student Service Center and makes it convenient for students to purchase their books, school supplies, gifts, and a few accessories.

The store is a department of the University, and its policies are established by a board of directors appointed by the President of the University. Any profit made by the store goes to the University to be used as the President and Board of Trustees authorize. None of it goes to any individual.

Every effort is made to operate the store in an efficient and up-to-date manner so that it will be an example of good retailing practice. The board of directors has charged the manager with the responsibility of operating the store just as he would if it had stiff competition right on campus. At the same time, the store must not alienate the merchants downtown by being a "price cutter." Merchandise is sold at regular list prices.

University Press

The University has a large investment in printing equipment and presses which are used for the myriad printing jobs required on campus. The press is responsible for the printing of the student daily newspaper, the literary magazine, the yearbook, and numerous University brochures, bulletins, and catalogs.

Motion Picture Production

The Department of Motion Picture Production has been established to produce documentary, historical, and training films for use in the Church and in schools. A correlated program with drama, music, art, writing, and all creative departments on campus is used to produce films for instruction, television, and public relations.

Colleges and Schools

Colleges

Each college in Brigham Young University is an undergraduate college which offers work for the bachelor's degree only. All work beyond the bachelor's degree, in every department, is under the dean of the Graduate School.

Biological and Agricultural Sciences

Business

Education

Family Living

Fine Arts

General

Humanities and Social Sciences

Nursing

Physical and Engineering Sciences

Physical Education

Religious Instruction

School

Graduate

College of Biological and Agricultural Sciences

Merrill J. Hallam, Acting Dean (110 B)

The following departments are in the College of Biological and Agricultural Sciences:

Agricultural Economics

Agronomy

Animal Husbandry

Bacteriology

Botany

Horticulture and Horticultural Specialties

Zoology and Entomology

Biological Division. Included in the biological division of this college are the Departments of Bacteriology, Botany, and Zoology and Entomology.

The biological division of the college enables the student to study and to understand more fully the plant and animal world. Preparation for teaching and research is emphasized.

Students who are interested in medical technology, medicine, dentistry, and veterinary science can receive their pre-training in the biological division of this college. Students desiring to register in these fields should make use of the guides offered.

Agricultural Division. Included in the agricultural division are the Departments of Agricultural Economics, Agronomy, Animal Husbandry, and Horticulture and Horticultural Specialties.

The agricultural division provides instruction in the principles and technical operations pertaining to the farm, the shop, the trades, and industries. The students are prepared not only to satisfy the practical needs of the community, but they are also trained to become specialists in the fields of agricultural science, for laboratories, and also for teaching on all educational levels. Capable leadership and efficient service in the phase of work they choose are emphasized.

Medical Technology

Advisors: Don H. Larsen, Richard D. Sagers

Through a cooperative agreement with various hospitals, Brigham Young University has made provision for training medical technologists. The curricula are designed to prepare students for careers in clinical laboratories and medical research laboratories. The course indicated in the following outline consists of a three-year period of residence study at the Brigham Young University campus and one year of practical hospital internship.

During the fourth year (internship), the student will register and pay tuition. After satisfactory completion of the internship, the student is eligible to receive a Bachelor of Science Degree.

Failure to achieve a cumulative grade point average of 2.0 by the end of the sophomore year will be considered sufficient reason to disqualify a student from further participation in the Medical Technology program.

Recommended Curriculum for Majors

Freshman Year			Sophomore Year		
	F	S		F	S
Mathematics 101, 111 ..	3	5	Chemistry 106, 220	4	4
Chemistry 105		4	Physics 201	4	
Zoology 105 or 213	3 or 4		Zoology 261	4	
English 111, 112	3	3	Bacteriology 301		4
Health 101	2		Literature		3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Religion	2	2	Humanities		3
Social Science	2		Religion	2	2
<hr/>		<hr/>	<hr/>		<hr/>
15½-16½		14½	14½		16½
Junior Year			Senior Year		
	F	S		F	S
Bacteriology 501, 511 ..	4	4	Bacteriology 401, 402	15	15
Bacteriology 491	1	1	(Hospital laboratory		
Bacteriology 391		2	internship)		
Zoology 376	4				
Zoology 417	3				
Chemistry 284		4			
History 170	3				
Religion (Humanities)	2				
Religion		2			
Social Science		3			
<hr/>		<hr/>			
17		16			

PRE-DENTAL COURSE

Advisory Committee: A. Lester Allen (chairman)

It is strongly recommended that the student select course work that will lead to a bachelor's degree in zoology, bacteriology, chemistry, sociology, psychology, or a related field. This will give him a broad background desired by the dental schools and will also prepare him to enter an alternative field in the event he is not admitted to dental school.

Sixty semester hours of work, including the following courses, will satisfy the minimum requirements of most dental schools. The student is advised to consult dental school catalogs to make sure that specific requirements of the schools of his choice are met. Such requirements may be somewhat more or less than those suggested below.

English 111, 112.
 Mathematics 101, 111.
 Physics 201, 202.
 Zoology 105, 212, 213.
 Chemistry 111, 112, 113, 221, 351, 352, 354, 355.

The remaining units should be completed in general education and course work leading to the bachelor's degree.

PRE-MEDICAL COURSE

Advisory Committee: A. Lester Allen (chairman)

It is strongly recommended that the student select course work that will lead to the bachelor's degree in zoology, bacteriology, chemistry, sociology, psychology, or a related field. This will give him the broad background desired by the medical schools and will also prepare him to enter an alternative field in

the event he is not admitted to medical school.

Three years of work, including the following courses, will satisfy the minimum requirements of most medical schools, although preference is usually given to college graduates. The student is advised to consult medical school catalogs to make sure that specific requirements of the schools of his choice are met. Such requirements may be somewhat more or less than those suggested below.

English 111, 112
French or German 101, 102 (reading knowledge)
Mathematics 101, 111
Zoology 105, 212, 213, and 363 or 373
Chemistry 111, 112, 113, 221, 351, 253, 354, 355
Physics 201, 202

The remaining units should be completed in general education and course work leading to a bachelor's degree.

PRE-OPTOMETRY COURSE

Chairman: A. Lester Allen

The requirements for admission to schools and colleges of optometry are not identical. Typically, the requirements include courses in English, mathematics, physics, chemistry, and biology or zoology. Some schools have varied requirements in psychology, social sciences, literature, philosophy, and foreign language.

The pre-optometry requirements represent a minimum of two academic years of study, all of which may be taken on this campus.

PRE-PHARMACY COURSE

Chairman: A. Lester Allen

The first year of the curriculum of the pharmacy school may be completed at this campus. For specific details the student should consult the chairman of the pre-pharmacy committee.

PRE-VETERINARY COURSE

Adviser: Keith H. Hoopes

Certain basic entrance requirements are common to all of the veterinary schools in the United States. The courses listed below are designed merely as a guide to help the student fill these basic entrance requirements. In connection with his pre-veterinary curriculum the student is strongly urged to work toward a bachelor's degree, including course work in animal husbandry and the basic sciences. A bachelor's degree broadens one's ability to understand the principles of veterinary medicine, increases chances of acceptance into a veterinary school, and provides an alternative should the student fail to enter veterinary school.

The student is advised to consult the catalogs of veterinary schools of his choice for specific entrance requirements that may affect him. Attention is also called to the general University requirements for graduation, such as physical education, social science, and humanities. Students in the colleges of veterinary medicine are not exempt from these requirements.

English 111, 112, 113
Mathematics 111, 112
Chemistry 111, 112, 113, 221, 351, 352
Botany 101
Zoology 105, and 213 or 363
Physics 111, 112
Animal Husbandry 207, 215
Bacteriology 121

College of Business

Weldon J. Taylor, Dean

The following departments are in the College of Business:

Accounting
Business Education and Office Management
Business Management
Economics
Statistics

The purpose of the College of Business is to provide training which will enable students to make an effective contribution to the stability and abundance of our economy and thereby to acquire economic self-reliance and personal satisfaction. Because of the constant and progressive changes that are taking place in our society and because of the dynamic characteristics of business organization and operation, success in business requires both technical competence and a high degree of adaptability. For this reason the training provided in all departments of the college gives emphasis to the social, human, and technical aspects of the business and economic environment. In order to provide an understanding of the functions of business, the institutional framework for their accomplishment, the language and technical skills utilized, and above all the inter-relatedness of the several activities of business endeavor, all departments require course work in the following subject areas: marketing, production, finance, accounting, statistics, law, and economic theory.

The program is directed toward the achievement of the following specific objectives:

- (1) Developing an understanding and appreciation of the human characteristics and social aspects of business as they are related to the individual, the firm, and the community.
- (2) Training in the use and understanding of the tools and information used in measuring, analyzing, and controlling business operations and economic change.
- (3) Developing in the student a capacity to determine what information is relevant to the accurate solution of a business problem and to analyze, organize, and present the solution of the problem in an effective manner.
- (4) Helping the student to acquire the capacity to communicate ideas orally and in writing.

In order that all students who plan to graduate with a major in any of the departments in the College of Business (except business education majors) may benefit from a common background of basic information and tools to facilitate their advanced work, they are required to take the core courses listed below. These courses form a basic training normally to be completed during the first three years of college work and before the student undertakes specialization in his major area.

Accounting 201 or 211	5 hours
Business Management 340, 342, 347, and 348	12 hours
Economics 111, 112, 345	8 hours
Statistics 131, 221, 231	7 hours

Substitutions may be made in B.E.O.M. for Business Management 340 and Economics 345. Majors in economics may substitute Economics 453 for Business Management 348, and Statistics 431 for Statistics 231.

Economics 111 and 112 listed above apply toward the University general education requirement in social science.

Consonant with objective (4) above, it is recommended (but not required) that all College of Business students take B.E.O.M. 320.

The degrees of Bachelor of Arts and Bachelor of Science are given to graduates of this college.

M.B.A. PROGRAM

In response to a growing demand for responsible leadership in our industrial society, the University is in the process of developing a program which will lead to the awarding of a Master of Business Administration degree. It is contemplated that first registrations for the program will be taken for the First Semester in 1961. Under the administration and direction of the College of Business, the program will be designed to serve students from all areas of undergraduate training who have demonstrated their capacity for a high level of performance. Further announcements will be made prior to the registration date. Inquiries should be directed to Dean Weldon J. Taylor, Brigham Young University.

PRE-GRADUATE BUSINESS PROGRAM

All students planning to secure a degree at a graduate school of business may register for a pre-graduate business program administered by the College of Business. Early contact (preferably in the freshman or sophomore year) should be made with the dean, who will advise students concerning their work.

College of Education

Asahel D. Woodruff, Dean (118 McKay)

The following departments are in the College of Education:

Educational Administration
Educational Philosophy and Programs
Educational Research and Services
Instruction

The College of Education has as its principal function the educating of teachers, counselors, school librarians, principals, supervisors, superintendents, and other professional workers in education.

High School Teaching. A student who plans to prepare for a career in high school teaching and related activities may do so either by registering within the College of Education or by registering in one of the other colleges of the University. In the latter case, he must complete the required professional education courses and the necessary subject-matter and other courses for the teaching certificate under the joint direction of an adviser in the College of Education and an adviser in his major college.

Elementary School Teaching. A student who is interested in elementary school teaching should register in the College of Education immediately. The program is largely prescribed from the beginning of the freshman year. Late entrance into the college may delay graduation and certification beyond the usual four years.

Teaching as a Second Career. A student who is preparing for a career in a field other than teaching may provide himself with a second possibility for employment by meeting the requirements for certification as a teacher while he is completing the other preparation. By planning early in one's career, one may do this within the usual scope of the baccalaureate program and with little or no interference with the major program. It should be noted that at present this is particularly feasible for high school teaching, where depth of preparation in two or three subject-matter fields is desired, but it also may be possible under special arrangements in the elementary school program.

Early Decisions Desirable. In either case, the student is urged to make the decision as early as possible in his college career to avoid conflicts in the scheduling of courses and to take fullest advantage of the maturing effect produced by spacing the study of teaching over a period of time.

How to Proceed. Those who decide to register in the College of Education should transfer to that college at once. All others will register in the colleges in which they are majoring. Every candidate for a teacher's certificate, however, regardless of the college in which he is registered, must have his certification program approved in the Teacher Certification Office, room 111 McKay, before he enters the first course in the professional education sequence.

Cycle Organization. To insure adequate facilities and opportunity to take classes, it has been necessary to organize the programs of the College of Education into cycles. Students in elementary education enter the cycles as beginning freshmen according to alphabetical listing of surnames. Students in secondary education are placed in the appropriate cycle according to subject-matter department. Inquiries concerning the proper cycle may be made in room 111 McKay.

Because it is necessary to keep the cycles balanced, students will not be admitted to the first course without proper approval of their programs.

Students who are not meeting the academic and other standards of the University may be asked to withdraw from the teacher certification program.

All students in the teacher certification program will be required to meet minimum standards in speech and hearing. Speech and hearing tests may be given as part of the course requirements in the first course in the certification cycle.

Each student who undertakes preparation for teaching will be provided with a brochure which describes the requirements and procedures. He will be expected to keep a record of his program and his progress.

How to Become Certified. A student who completes the certification requirements set forth by the College of Education, regardless of the college in which he is majoring, is eligible for a certificate issued by the Utah State Board of Education. Certification is received from that board after application for certification has been made personally by the student through the dean of the College of Education, who in turn recommends the student to the state board. All students who have met the requirements of the state and the University are recommended when they apply. Applications will be furnished routinely to all regular students who are successfully completing the requirements near the end of the program. Special students should inquire in room 111 McKay for application forms soon after they have 60 semester hours of credit.

A student may prepare himself to be certified as any of the following:

- Teacher in kindergarten
- Teacher in elementary schools
- Teacher of special classes for handicapped children
- Teacher in secondary schools
- Teacher of industrial arts in secondary schools
- Teacher of vocational homemaking in secondary schools
- Teacher of unit shops in industrial arts
- Teacher of trade and industrial education day trade courses
- Supervisor of trade and industrial education
- Local director of trade and industrial education
- Librarian in elementary schools
- Librarian in secondary schools
- Counselor
- Administrator-Supervisor in elementary schools
- Administrator-Supervisor in secondary schools
- Superintendent
- Teacher and teacher-coordinator of distributive education
- Local supervisor of distributive education

First Certification Requirements. Certification of teachers is a function of the Utah State Board of Education. The Board of Education publishes requirements for certification in booklet form and in supplements. The present policy of the board is one of stating minimum requirements in general terms. This is done for the purpose of encouraging the institutions that prepare teachers to engage in continuous study of the requirements, going beyond the minima in whatever ways seem desirable. While the board is always able to certify a candidate without recommendation from a university, it chooses to require the recommendation of the officer in charge of teacher preparation in each institution. This requirement is of assistance not only to the state board, but also to the institution because of the assurance that its efforts to improve the program of preparation will not be made ineffective by the ready availability of ways of going around the minimum requirements.

Alterations in the requirements may be made from time to time. They will not be made retroactive in the case of any student, but may be made to apply to uncompleted portions of his program where this can be done without difficulty.

Requirements For a Second Certificate. An individual who has met the requirements for a general elementary school certificate may obtain a general secondary school certificate by meeting certain additional requirements. The state's requirements for subject-matter major, minor, or composite teaching major must be completed. In addition the individual must complete certain courses in methods of teaching and in student teaching at the secondary school level. An individual who has met the requirements for a general secondary school certificate may obtain a general elementary school certificate by completing certain courses in methods of teaching and in student teaching at the elementary school level. Specific instructions for these programs are available in the Teacher Certification Office, room 111 McKay.

Fifth-Year Program for Teachers in Service. Advancement in teaching, both professionally and economically, requires study in some depth beyond the bachelor's degree. State departments of education are increasingly raising certification standards to the level of a five-year preparation program. To meet this need Brigham Young University offers a carefully planned fifth-year program. It consists of the equivalent of a master's major or minor in professional education, with a major or minor in the teacher's subject matter field. Details of the program may be had through the Teacher Certification Office, room 111 McKay. The program outlined by the University will meet the requirements of the five-year professional certificate of most states.

Selection of Candidates. Candidates for certification as teachers should expect to be carefully selected, even though their interest in certification is secondary to another career at the time. Only those who are individuals of high capacity, who have acquired a substantial general education, whose mastery of their major and minor fields is unquestioned, and whose personal characteristics reflect the best ideals of our culture will finally be recommended for certification.

The selection of those who will finally be recommended for certification is a continuous process. It begins when the students first announces his intention of seeking certification. It continues through all stages of his preparation. Among other things, it is necessary to maintain a grade-point average of 2.25 to remain in the program ($C=2.00$).

No course in a student's secondary teaching major, teaching minor, or composite teaching major in which he receives a grade of D will count for certification unless he has at least a 2.5 grade-point average in courses taken from that department, and also has the approval of the chairman of that department. If the student does not have this 2.5 grade-point average, he must repeat the class for which he received a D or take additional hours of the class if elective for the teaching major or minor.

Students Transferring from Other Colleges. To transfer from another college to the College of Education or to be admitted to the College of Education from another institution, the student must have an academic grade point average of 2.25 or better. To continue to take sequence courses in professional education, the student must have a grade-point average of 2.25 each semester. If a student cannot qualify on this basis, he will be asked to withdraw from the certification program until his last quarter grades qualify him for re-entry. To qualify, he must carry successfully at least 12 hours of course work in one semester with the prescribed grade-point average.

Special Education. Utah has recently adopted a certification program in special education, with specialization provided in the following areas: children with intellectual handicaps, children with motor handicaps, children with speech and hearing handicaps, and children with academic handicaps. To be certified in Utah the individual must have a valid teaching certificate, plus appropriate experience, and must complete specified graduate study in the chosen area. Students interested in speech and hearing correction should contact the Speech Department. All others should consult the Department of Educational Research and Services.

Personnel and Guidance. Certification as a school counselor in Utah requires approximately one year of graduate work in personnel and guidance plus two years of successful teaching experience. For course listings in this area, see the Department of Educational Research and Services.

PREPARATION OF ELEMENTARY SCHOOL TEACHERS

The College of Education offers a comprehensive program which will satisfy requirements for an elementary teaching certificate as well as graduation requirements for students registered in the College of Education. The candidate for certification must meet University graduation requirements.

The program consists of four elements:

1. The Arts and Sciences Major for elementary school teachers, which also satisfies the University requirements in general education.
2. The professional preparation, which includes 28 semester hours of designated professional education courses, constituting a major in Elementary Education.
3. The group of electives, by the judicious use of which the student may add a subject-matter minor, if he so desires, thus materially contributing to his academic preparation and his chances for employment.
4. University requirements in religion, English, and health.

1. The Arts and Sciences Major (60-62 hours).

Required courses and elective courses within the major are listed below:

a. Physical Sciences (10 hours).

- (1) Required (6 hours): Chemistry 100, Geology 101, Physics 101; or Physical Science 101, 102.
- (2) Elective (4 hours chosen from the following courses): Physics 127, 137, 300; Geology 102, 103, 501, 502.

b. Biological Sciences (9 hours).

- (1) Required (6 hours): Bacteriology 121; Botany 101 or Zoology 105.
- (2) Elective (3 hours): Bacteriology 311; Botany 105 (recommended), 176, 451; Foods and Nutrition 115; Zoology 176, 230, 310, 315 (recommended), 357. If Botany 101 is chosen, the elective should be in Zoology. If Zoology 105 is chosen, the elective should be in Botany.

Note: Those passing the entrance examination in fundamentals of biology should substitute courses from the elective list for Botany 101 or Zoology 105.

c. Social Sciences (15 hours).

- (1) Required (12 hours): History 170 or 180 (those minoring in history should take History 120 and 121 instead); Economics 101; Psychology 111; Anthropology 101 or Geography 120.
- (2) Elective (3 hours from the following courses): Economics 461; Geography 101, 211, 231; Political Science 105; Psychology 340; Sociology 111, 112, 383, 389, 512.

d. Humanities and Aesthetics (22-24 hours).

- (1) Required (21 hours): Art 110, 226; three semester hours chosen from English 250, 260, 270, 355, 356, 357, 358; History 360, 366; Instruction 324 or 325, 340; Music 102, 237; Speech 121.
- (2) Elective (one course): Archaeology 310; Clothing and Textiles 110, 225; History 110, 111, 365; HDFS 324; Library Science 366; Music 101, 105; Speech 366.

e. Physical Education (4 hours)

- (1) Required (2 hours): Physical Education 375 or 376.
- (2) Elective (2 hours): Any lower division physical education course. Physical Education 181 and 182 are recommended for elementary education majors.

*If introductory courses have been taken in high school, the faculty adviser should be consulted for recommended courses which may be substituted.

2. The Major in Elementary Education (28 hours).

Inst. 301 Basic Concepts of Teaching	1 hour
Inst. 320 Elementary Teaching Procedures	3 hours
Inst. 321 Reading and Arithmetic	3 hours
Inst. 449 Elementary Student Teaching	8 hours
E.R.S. 403 Development and Learning	4 hours
Inst. 405 Analysis of Teaching	2 hours
Inst. 406 Teaching Materials Laboratory (Audio-Visual Aids)	2 hours
Ed. Phil. 410 School and Society	3 hours
Health Ed. 361 Health Education for Elementary Teachers	2 hours

3. Elective (10 to 30 hours, depending on the number of hours taken each semester).

Electives may be used to add a subject-matter teaching minor. See "Subject-Matter Preparation of Secondary School Teachers" below. Sufficient electives must be taken to bring the total to 124 hours.

4. University requirements not covered by the majors or the electives (22-24 hours). See "Requirements for Graduation" section in this catalog.

- a. Religion (16 hours).
- b. Freshman English (4 or 6 hours).
- c. Health 130 (2 hours).

Cycles. Copies of the cycles with complete programs for all four years are available in room 111 McKay (Teacher Certification Office). Students enter the cycles according to alphabetical order.

Students on Former Programs. Students who have been working toward certification on former programs are requested to consult with personnel of the Teacher Certification Office for counseling with respect to the completion of requirements.

PREPARATION OF SECONDARY SCHOOL TEACHERS

The College of Education offers professional courses leading to secondary certification. Students desiring certification in this area must complete course requirements in the following areas:

1. **General Education.** Examine the section of this catalog called "Requirements for Graduation" for an explanation of these requirements.
2. **An approved teaching major and minor, or composite major.** See below.
3. **Professional Education.** The following required courses complete the requirement for a minimum of 22 semester hours of professional education. Courses should be taken in the sequence shown below, except that Health 362 may be taken at any time. E.R.S. 403, Instruction 405, Instruction 406, and Ed. Phil. 410 may be taken concurrently. For course prerequisites check course descriptions.

	Hours
Inst. 301 Basic Concepts of Teaching	1
Inst. 377 Secondary Teaching Procedures	3
Inst. 479 Secondary Student Teaching	8
E.R.S. 403 Development and Learning	4
Inst. 405 Analysis of Teaching	2
Inst. 406 Teaching Materials Laboratory (Audio-Visual Aids.) (Required for California certification, recommended for Utah teachers)	2
Ed. Phil. 410 School and Society	3
Health 362 Health Education for Teachers	2

Subject-Matter Preparation of Secondary School Teachers

The University offers two approaches to certification. One consists of the traditional teaching major and teaching minor, while the other consists of a composite teaching major.

Teaching Major and Teaching Minor. A teaching major consists of 24 or more hours of designated courses in a subject taught in Utah high schools and approved by the College of Education. A teaching minor consists of 16 or more hours of designated courses in a subject also taught in the secondary schools of Utah and approved by the College of Education. The 24-42 hour groups listed in the following material are approved for the teaching major; the 16-30 hour groups listed in the same sections are approved for the teaching minor.

These subjects approved as either teaching majors or minors (please note exceptions):

Accounting	Latin
Art	*Library Science (minor only)
**Botany	**Mathematics
Business Education	**Music Education (minor or composite major only)
**Chemistry	**Physical Education
Drawing (minor only)	**Physics
*Economics	*Political Science
**English	*Psychology
French	Recreation (minor only)
General Business (minor only)	Russian
Geography	**Safety and Driver Education
Geology	Spanish
German	Speech
Health Education	*Sociology
**History	**Zoology
**Industrial Education and Drawing	
Journalism	

*If elected as a major or minor, the other subject must be one marked ** above.

Composite Teaching Major. A composite teaching major consists of work in three subjects in the same general field totaling at least 40 hours, with 16 or more hours of designated courses in a dominant subject, and 12 or more hours of designated courses in each of two related subjects in the same general area. For guidance in selecting and completing a composite teaching major, students must consult with the Teacher Certification Office, room 111 McKay, whose responsibility it is, under cooperative advisement with the academic departments, to administer composite majors. Only those general fields listed below may be selected for a composite teaching major.

Any deviation from the academic programs as outlined must be approved in writing by the chairman of the subject-matter department concerned and by the Teacher Certification Office, room 111 McKay, and filed with the student's

permanent records in the College of Education.

The following general fields may be used for composite teaching majors. Three subjects of those listed in each field (a dominant and two related subjects) constitute a composite teaching major. With only those exceptions noted, any subject in the general field may be chosen as the dominant.

Substitution of other subjects within the general field is not acceptable.

Accounting and Office Management:

- Accounting
- Economics
- Business Education

Agriculture:

- Agricultural Economics
- Agronomy
- Animal Husbandry

Homemaking Education

Language Arts:

- English
- Journalism
- Speech

Mathematics and Physical Sciences:

- Chemistry
- Geology
- Mathematics
- Physics

Music Education (any one of the following constitutes the composite):

- Composite Music Education Major
- Composite Vocal Major
- Composite Instrumental Major

Health, Physical Education, and Recreation:

- Health
- Physical Education
- Recreation
- Safety and Driver Education

Social Sciences:

Geography, History, and one of the following:

- Economics
- Political Science
- Psychology
- Sociology

**Courses Required for Teaching Majors, Teaching Minors,
and Composite Teaching Majors**

ACCOUNTING:

25-hour list (Major: 201 or 211, 212, 301, 302; and 5 hours selected from 255, 420, 575, B.E.O.M. 206.

16-hour list (Minor or Dominant Subject): 201 or 211, 212; and 6 hours selected from 255, 301, 302, 420, 575.

12-hour list (Related Subject): 201 or 211, 212; and 2 or more hours selected from 255, 301, 302, 420.

AGRICULTURAL ECONOMICS (Farm Management) (For use in Agriculture Composite only):

16-hour list (Dominant Subject): 101, 125, 310, 325; 5 hours chosen in consultation with the department chairman from 320, 360, 425, 580. (Note: Certain statistics classes may be substituted in the optional list by the department chairman. Ten hours of upper division credit are required.)

12-hour list (Related Subject): 101, 125; and 6 hours selected from 310, 325, 350, 360, 410, 425, 580.

AGRONOMY (For use in Agriculture Composite only):

16-hour list (Dominant Subject): 141, 251, 440; 6 hours selected from 301, 302, 305, 308, 451, 455, 459.

12-hour list (Related Subject): 141, 251; 5 hours selected from 301, 305, 308, 451, 455, 459.

ANIMAL HUSBANDRY (For use in Agriculture Composite only):

16-hour list (Dominant Subject): 153, 207, 208; and 8 or more hours selected from 161, 162, 170, 171, 311, 312, 335, 337, 340, 341, 345, 346, 370, 446.

12-hour list (Related Subject): 153, 207, 208; and 4 or more hours selected from 161, 162, 170, 171, 311, 312, 335, 337, 340, 341, 345, 346, 370, 446.

ART:

37-hour list (Major): 122, 227, 233, 239, 250, 256, 263; art history, 6 hours; 310, 312 or 341, 350 or 352, 359, 361, 363, 366; painting, 2 hours.

22-hour list (Minor): 122, 227, 233, 239, 250, 256, 263, 306, 310, and upper division, optional.

BOTANY:

Note: Prospective biology teachers should complete either a zoology major and a botany minor, or a botany major and a zoology minor.

27-hour list (Major): 101, 110, 201, 205, 321, 331, 376, 390 or 490, 440, 450. Recommended in addition: 335, 460, 455.

16-hour list (Minor): 101, 105, 110, 201; 6 hours selected from 205, 376, 440, 450, 460.

BUSINESS EDUCATION:

24-hour list (Major): 203, 204, 206, 220.

Shorthand and Office Practice:

Option One: 312, 475; 6 hours selected from 112, 311, 313, 405, 418.

Option Two: 111, 305, 320, 325, 370; Accounting 230.

Note: In order to qualify for a 24-hour teaching major in business education, the student must also have completed Accounting 201 or 211; 202; and Economics 101.

16-hour list (Minor): 203, 204, 206, 220, 311, 370.

CHEMISTRY:

32-hour list (Major): 111, 112, 113; 22 hours selected from 321, 322, 351, 352, 354, 355, 461, 504, 514, 581, 591.

16-hour list (Minor or Dominant Subject): 111, 112, 113; 6 hours selected from 221 or upper division courses in chemistry.

13-14 hour list (Related Subject): 111, 112, 113; 3-4 hours from 221 or upper division courses in chemistry.

Note: Chemistry 105 and 106 will be considered equivalent to Chemistry 111 and 112.

DRAWING:

16-hour list (Minor): 102, 109, 113, 244, 246, 304, 380.

ECONOMICS:

24-hour list (Major): 101 or 111, 274, 345, 575 or 576; and 12 hours selected from 358, 383, 454, 461, 462, 575, 576, 580.

16-hour list (Minor or Dominant Subject): 101 or 111, 274, 345; and 7 hours selected from 358, 383, 454, 461, 575, 576.

12-hour list (Related Subject): 101 or 111, 274, 345; and 3 hours selected from 358, 383, 454, 461, 575, 576.

ENGLISH:

30-hour list (Major): 221, 251, 361 or 363, 362, 382 or 582, 490; 4 courses from 371, 372, 373, 374, 375. Two of the following substitutions are allowed: 481 for 371, 541 for 372, 542 for 373, 332 for 375. Sufficient electives must be taken to bring the total to 30 semester hours.

16-hour list (Minor, Dominant or Related Subject): 221; 251; 282, 382 or 582; one course from 361, 362, or 363 (362 recommended); one course from 371, 372, 373, 374, 375 (374 or 375 recommended); sufficient electives to bring the total to 16 semester hours.

Note: Freshman English courses do **not** count toward filling teaching major or minor or composite requirements.

FRENCH:

36-hour list (Major): 101, 102, 201, 301, 321, 322, 441, 442, 511 (or equivalents); and 6 hours from 431, 432, 490, 491.

30-hour list (Minor): 101, 102, 201, 301, 321, 322, 511 (or equivalents); and 6 hours from 431, 441, 442.

GENERAL BUSINESS (May not be used as a teaching major):

16-hour list (Minor): Accounting 201 or 211; 202; Economics 101; 6 hours selected from Accounting 255, Economics 274, 461, and Business Management 205, 342, 347, 480, 481.

GEOGRAPHY:

26-hour list (Major): 101, 211, 231, 351, 504; two courses selected from 401, 441, 522, 533; two courses selected from 455, 460, 470, 475; electives to total 26 hours chosen in consultation with the chairman of the Geography Department.

16-hour list (Minor or Dominant Subject): 101, 120, 211, 231, 351; two hours chosen in consultation with the chairman of the Geography Department.

12-hour list (Related Subject): 101, 120, 231, 351.

GEOLOGY:

26-hour list (Major): 111, 112, 251, 252, 306, 311, 502; and one course selected from 460, 480, 696.

18-hour list (Minor or Dominant Subject): 111, 112, 251, 252, 502.

12-13 hour list (Related Subject): 111, 112, 501, 502; or 101, 102, 103, 306, 501, 502.

GERMAN:

36-hour list (Major): 101, 102, 201, 301, 321, 322, 431, 432, 441, 442, 511 (or equivalents).

30-hour list (Minor): 101, 102, 201, 301, 321, 322, 441, 442, 511 (or equivalents).

HEALTH EDUCATION:

24-hour list (Major): 121, 325, 381, 521, 530, and 552 or 560; Foods 115, Zoology 264, Psychology 340; and 6 hours chosen from the elective courses which also count in health education.

16-hour list (Minor or Dominant Subject): 121, 325, 381, 521; and 4 hours selected from the following: Foods 115; Health 530, 552, 560; and Psychology 340. In addition, a student may count 4 hours from the elective courses which also count in health education.

16-hour list (Driver and Safety Education Minor): 121, 325, 444, 445; and 7 hours selected from the following: 521, 530, 560, Physical Education 164 or 165, and Instruction 406.

12-hour list (Related Subject): 121, 325, 521, 552 or 560; Psychology 340; Foods 115.

HISTORY:

30-hour list (Major): 110, 111, 120, 121, 366; and 16 hours selected in consultation with the chairman of the History Department.

Note: At least 10 hours of the major must be upper division credit.

17-hour list (Minor or Dominant Subject): 110, 111, 120, 121, 366; and 3 hours selected in consultation with the chairman of the History Department.

12-hour list (Related Subject): 110, 111, 120, 121.

Note: Students may not use History 170 or 180 toward completion of the above requirements unless approved by the chairman of the History Department.

HOMEMAKING EDUCATION (Homemaking education may be used only as a composite teaching major; no teaching major or teaching minor alone may be selected from this field):

43-45 hour list:

Clothing and Textiles: 110, 165, 260, 235 or 300.

Food and Nutrition: 110 (need determined by test), 255, 264, 265 (lab), 340.

Family Housing and Management: 220, 330, 350, 351, 370.

Human Development and Family Relationships: 210, 322, 361.

Nursing: 288.

INDUSTRIAL EDUCATION AND DRAWING:

42-hour list (Major):

*Drawing 102, 109, 113; Ind. Ed. 101, 103, 104, 120, 125, 130, 138, 250, 301, 340, 341, 361, 362 or 160, 370; a departmentally approved art course; E.R.S. 550; Inst. 406.

*If drawing is selected as a teaching minor, the drawing courses must be omitted from the major requirements and 5 elective hours substituted.

17-hour list (Minor): Drawing 102, 113; Ind. Ed. 101, 103, 138, 160, 340.

JOURNALISM:

28-hour list (Major): 101, 211, 212, 301, 321, 323, 330, 410, 490; 4 hours selected from 111, 307, 315, 331, 561.

18-hour list (Minor, Dominant, or Related Subject): 211, 212, 321, 323, 490; 4 hours selected from 101, 111, 301, 330, 410.

LATIN:

36-hour list (Major): 101, 102, 201, 301, 441, 442, 490, 491, 511 (or equivalents); and 6 hours from 340, 341, 651, 667.

30-hour list (Minor): 101, 102, 201, 301, 441, 442, 511 (or equivalents); and 6 hours from 340, 490, 491, 651, 667.

LIBRARY SCIENCE:

16-hour list (Minor or Dominant Subject): 355, 363, 366, 370, 585; and 5 hours of electives in library science.

MATHEMATICS:

25-hour list (Major): 213, 214, 300, 301; 9 hours selected from 311, 312, 371, 372, 387, 521, 522.

16-hour list (Minor or Dominant Subject): 112, 213, 300, 301.

13-hour list (Related Subject): 112, 213, 301.

MUSIC EDUCATION:

Band instrumentalists who pursue one of the music education degrees participate at least one Fall Semester in marching band and one Spring Semester in varsity band, preferably on a minor instrument. Voice majors sing in at least two ensembles.

Students who major or minor in music attend lyceums as well as Music Department recitals and concerts. Majors must accumulate six semesters of satisfactory attendance at such events during the four years (minors four semesters). In order to achieve satisfactory attendance, a student may not be absent from more than two such concerts or recitals during any one semester. Students who fail to accumulate the necessary satisfactory attendance are required to take Music 103 during their last semester before graduation.

The first two areas listed may be used for teaching minors only. They may be selected only when the accompanying teaching major is in a field other than music.

Instrumental Music Emphasis Area:

21-hour list: 101, 191, 193, 201, 202; 6 hours selected from 160p or 360p (on instrumental specialty), 368, 370, 372, 375; 4 hours of instrumental ensembles.

Vocal Music Emphasis Area:

21-hour list: 101, 191, 193, 201, 202, 374; 4 hours of group and/or private voice; 4 hours of vocal ensembles.

The three areas listed below may be used as composite teaching majors.

Composite Music Education Major:

60-hour list: 191, 192, 193, 194, 201, 202, 291, 292, 363, 364, 367, 368, 370, 372, 374, 375, 378, 484, 485; 4 hours of ensemble; 4 hours of functional piano; 12 hours of private instruction in the student's specialty.

Composite Vocal Major:

60-hour list: 191, 192, 193, 194, 201, 202, 291, 292, 374, 378, 466, 484, 485, 566, 567, 568; 12 hours of private voice instruction; 2 hours of piano accompanying; 4 hours of ensemble; 8 hours of functional piano.

Composite Instrumental Major:

60-hour list: 191, 192, 193, 194, 201, 202, 291, 292, 367, 368, 370, 372, 375, 378, 484, 485; 6 hours of instrumental ensemble; 2 hours of vocal ensemble; 12 hours of private instruction in the student's specialty; 4 hours of functional piano.

PHYSICAL EDUCATION:

Men:

33-hour list for men (Major): 180, 181, 182, 231, 232, 233, 234, 235, 330,

- 341, 344, 371, 372, 373, 374, 391, 399, 413, 446, 464; 2-3 hours electives.
- 16-hour list for men (Minor): Two courses from 180, 181, 182; 3 hours from 231, 232, 233, 234, 235; 330; 341; 4 hours from 371, 372, 373, 374; and 446.
- 14-hour list for men (Related Subject): Two courses from 180, 181, 182; 3 hours from 231, 232, 233, 234, 235; 2 hours from 371, 372, 373, 374; 330; 341; and 375 or 376.

Women:

- 33-hour list for women (Major): 180, 181, 182, 183, 187, 188, 241, 242, 244, 245, 330, 341, 344, 375 or 376, 390, 391, 413, 446, 464; 4 hours electives.
- 16-hour list for women (Minor): Two courses from 180, 181, 182, 183; 187; 188; 3 courses from 241, 242, 243, 244; 330; 341; and 375 or 376.
- 14-hour list for women (Related Subject): Two courses from 180, 181, 182, 183; 187; 188; 2 courses from 241, 242, 243, 244; 330; 341; and 375 or 376.

PHYSICS:

- 26-hour list (Major): 211, 212, 213, 214, 315, 316, 321, 322; and 3 or more hours selected from the upper division courses.
- 18-hour list (Minor or Dominant Subject): 211, 212, 213, 214, 300, 315 (or 303), and 3 or more hours selected from the upper division courses.
- 13-hour list (Related Subject): 201, 202, 303; and 2 or more hours selected from 127, 128, 137, 177, 300, or other upper division courses.

POLITICAL SCIENCE:

- 30-hour list (Major): 110, 111, 112 or 115, 300; and 19 hours selected in consultation with the chairman of the Political Science Department to include one course from 301, 303, 306; one course from 310, 320, 322; one course from 330, 532, 535; one course from 350, 355, 362, 557; one course from 370, 565, 571, 575; one course from 391, 396, 397, 575, 595.
- 24-hour list (Minor or Dominant Subject): 110, 111, 112 or 115; and 9 hours selected in consultation with the chairman of the Political Science Department.
- 18-hour list (Related Subject): 110, 111, 112 or 115; and 3 hours selected in consultation with the chairman of the Political Science Department.

PSYCHOLOGY:

- 27-hour list (Major): 111*, 321*, 340 or 540*, 360*, 365*, 370*, 374, 378*, 491; at least 3 hours selected from 185, 320, 350, 445*, 550*, 585*.
- 17-hour list (Minor or Dominant Subject): 111, 311, 321, 540 or 550, 378; at least 3 hours selected from 185, 320, 340 or 540, 350, 445, 550, 585.
- 13-hour list (Related Subject): 111, 311, 321; at least 5 hours from 185, 320, 340 or 540, 350, 374, 378, 445, 550, 585.

*Required on the undergraduate level for the school psychologist program.

Note: In order to complete professional education requirements, the student should complete E.R.S. 304 rather than E.R.S. 403.

RECREATION:

- 16-hour list (Minor or Dominant Subject): 301, 337, 371, 387, 388, 505; Physical Education 280, and four hours of electives from the approved list under Department of Recreation.
- 12-hour list (Related Subject): 301, 337, 387, 388, 505; Physical Education 280.

Note: A student may substitute for one of the above courses with the con-

sent of the department chairman and teacher certification office.

Elementary education majors should refer to the Department of Recreation section of the catalog for the recreation minor.

RUSSIAN:

Program may be outlined in consultation with the department chairman.

SOCIOLOGY:

30-hour list (Major): 111, 112, 320, 397, 491, 504, 505, 512; and sufficient hours selected from 257, 316, 348, 350, 383, 386, 389, 403, 410, 420, 423, 446, 449, 470, 516, 552, 555, 560, 570, 580, 591 to bring the total to 30 hours.

18-hour list (Minor or Dominant Subject): 111, 112, 320 or 397, 504 or 505; and sufficient hours selected from 257, 316, 348, 350, 383, 386, 389, 403, 410, 420, 423, 446, 449, 470, 516, 552, 555, 560, 570, 580, 591 to bring the total to 18 hours.

12-hour list (Related Subject): 111 and 112; and sufficient hours selected from 257, 316, 348, 350, 383, 386, 389, 403, 410, 420, 423, 446, 449, 470, 516, 552, 555, 560, 570, 580, 591 to bring the total to 12 hours.

SPANISH:

33-hour list (Major): 101, 102, 201, 301, 321, 322, 511 (or equivalents); and 9 hours from 441, 442, 451, 452.

28-hour list (Minor): 101, 102, 201, 301, 321, 322, 511 (or equivalents); and 3 hours from 441 or 451.

SPEECH:

33-hour list (Major): 101, 111, 121, 123, 126, 241, 305, 401, 460, 471, 491; 2 hours from 319, 320, 321; and 5 hours chosen in consultation with the chairman of the Speech Department.

18-hour list (Minor, Dominant, or Related Subject): 18 hours selected in consultation with the chairman of the Speech Department from 102, 111, 121, 123, 126, 241, 319, 320, 321, 460, 491.

Note: Speech 491 is required of all majors and minors.

ZOOLOGY:

Note: Prospective biology teachers should complete either a zoology major and botany minor, or a botany major and zoology minor.

Students who have had high school biology and who pass the qualifying examination in zoology for beginning students may select three other hours of zoology in place of Zoology 105.

30-hour list (Major): 105, 164, 212, 213, 230; one course selected from 343, 345, 346, or 347; 372, 376, 551.

16-hour list (Minor): 105, 164, 230; 343 or 345; 346 or 347; 372.

DUAL CERTIFICATION

For those students who are already certified in either elementary or secondary education, a program leading to certification in the other field is available upon request at the Teacher Certification Office.

TEACHER PLACEMENT

Placement of teachers is a function primarily of the University Placement Bureau, which works in close collaboration with the College of Education. All students are required to register in the Placement Bureau as a prerequisite to registration for student teaching, whether they have positions already assured or

not. Registration before leaving the campus enables the office to be of service at later dates as new opportunities or new needs arise.

THE LABORATORY SCHOOL

Director: Edwin A. Read

Assistant Directors: John K. Crnkovic, instruction; Max J. Berryessa, operations

The laboratory school (kindergarten through twelfth grade) is maintained by the College of Education to assist in the preparation of teachers and in the improvement of educational programs. Students may secure valuable experiences there as part of their preparation for teaching. The laboratory school is also intended to furnish a setting for research in child development, in learning, in social processes, and in the planning and conducting of educational programs. Use of these facilities is under the supervision of the Director of the Laboratory School, an assistant director of instruction, and an assistant director of operations. Interested faculty members and students should arrange visits and demonstrations through the office of the assistant director of instruction.

In keeping with the laboratory functions of the school, pupils are frequently under observation and study, and the classes in the school are subject to various kinds of experimental treatment for the purpose of improving instruction. Regardless of these functions, however, the instruction is kept at a high level of quality, since one of the principle purposes of the school is to demonstrate superior educational practices for the benefit of teachers-in-training and teachers-in-service.

Moral and religious education is a constant part of the instruction in this school. Pupils are admitted under the assumption that they will adhere to L.D.S. standards of personal conduct, dress, and morality. Observance of these standards is a requirement for continued enrollment in the laboratory school. Pupils are also required to observe the Utah compulsory school attendance law.

Enrollment in each grade of the laboratory school is limited to the number of pupils for whom adequate educational services can be provided. Pupils are accepted on the basis of established criteria which are important in carrying on the unique functions of the school. Applications for admission should be filed with the assistant director of operations between January 1 and June 1 preceding enrollment in September. Forms for this purpose are available in his office.

Pupils who are admitted to the laboratory school may continue their education through the graduate program of the University providing established academic and behavioral standards are maintained. They have many of the advantages of the University plant, such as use of libraries, gymnasiums, laboratories, shops, athletic fields, and auditorium.

Elementary Laboratory School

The elementary section of the Laboratory School covers the range from the kindergarten through the sixth grade.

A staff of well-qualified instructors, together with the facilities offered by the University and the assistance given by special supervisors, provide a wide range of experiences for the children. Much attention is given to individual needs and interests and to the development of special abilities of pupils. The elementary program includes instruction in modern language and instrumental music.

The school serves as a laboratory for educational research and experimentation, and is a center for the preparation of teachers in elementary education.

Secondary Laboratory School

Pupils completing the first six grades are regularly transferred to the junior high school. Here departmentalization begins, permitting variations in courses and a wide range of contact with expert instructors. Broad exploratory experiences are provided.

Pupils completing the three years of work prescribed for the junior high school are admitted to the senior high school.

Pupils graduating from the senior high school are expected to have completed eighteen units of study in three years. Equal credit is given in all subjects for equal amounts of time spent in the classroom. One unit of credit is granted for each class which meets five days per week for thirty-six weeks. All required classes must be included in the program of each pupil who qualifies for graduation.

A rich program of athletic and social activities is provided for secondary school pupils under the direction of the faculty and the studentbody organizations. Pupils participate in interscholastic athletics, speech, art, music, and commercial competition. High school students also have the advantage of participation in selected activities sponsored by the University.

Brigham Young University High School is a member of the Utah High School Activities Association, meets all requirements of the Utah State Board of Education, and is accredited by the Northwest Association of Secondary and Higher Schools.

PROGRAM OF STUDIES

Junior High School. It is the philosophy of the junior high school that certain areas of work should be organized around student needs into a "core" program. By having students remain with one teacher for a two-hour period, it is believed that greater strides may be made in guiding the pupil in solving his personal problems, in integrating his school activities with those which he carries on in the community, in developing a wholesome personal outlook, and in developing basic skills and acquiring factual knowledge commensurate with his level; therefore, "core" classes have been set up in the seventh and eighth grades.

7th Grade subjects:

Required: "Core" curriculum (English and social studies), mathematics, general science, speech, physical education, and general music.

8th Grade subjects:

Required: "Core" curriculum (English and social studies), mathematics, general science, art, vocal music, and industrial arts or homemaking.

9th Grade subjects:

Required: English, social studies, physical education and religion.

Electives: biology, algebra, typing, music, art, industrial arts or homemaking, speech, French, Spanish, or German.

Senior High School. Students desiring to graduate from B.Y.U. High School and to qualify for college entrance at the same time must complete the following requirements (A unit of credit is given for any subject that is taken five times a week for thirty-six weeks):

1. A total of eighteen units is required in grades 10, 11, and 12.
2. One unit of physical education. Students who have some physical disability may be excused from this requirement upon presentation of a statement from their family physician attesting to this fact.

3. One-half unit of health.
4. One-half unit of senior guidance.
5. One unit of mathematics selected from algebra, geometry, or general mathematics.
6. Three units of English.
7. American history and government and either problems of democracy or development of civilization.
8. One unit selected from chemistry, physics, biology, or senior science.
9. While at Brigham Young University High School, the prescribed courses in religious education must be followed satisfactorily by all students. One religion class each year is required until graduation from the semi-nary program.
10. The following courses are suggested and recommended but not presently required:

Music or art—1 unit

Homemaking or industrial arts—1 unit

Senior students who have demonstrated outstanding academic ability may be permitted to enroll in "honors" classes at the high school and/or selected Home Study courses offered by the University Extension Services.

SENIOR HIGH SCHOOL COURSES

Subject	Days		Year Taken	Credit
Art I and II	5	Elective	9-12	1 unit
Industrial Arts I and II	5	Elective	9-12	1 unit
Business				
Shorthand, Beginning	5	Elective	11-12	1 unit
Typing I and II	5	Elective	10-12	1 unit
Bookkeeping	5	Elective	10-12	1 unit
Office Practice	5	Elective	11-12	1 unit
Language Arts				
Grammar and Literature	5	Required	10	1 unit
Composition, Grammar, and American Literature	5	Required	11	1 unit
English Literature	5	Required	12	1 unit
Publications	5	Elective	10-12	1 unit
"Honors" English	5	Elective	12	1 unit
Homemaking				
Homemaking I	5	Elective	9-12	1 unit
Home Living	5	Elective	10-12	1 unit
Language				
French I and II	5	Elective	9-12	1 unit
Spanish I and II	5	Elective	9-12	1 unit
German I and II	5	Elective	9-12	1 unit
Mathematics*				
Algebra I and II	5	Elective	9-12	1 unit
Geometry	5	Elective	10-12	1 unit
Functional Math	5	Elective	10-12	1 unit
Trig and College Algebra	5	Elective	12	1 unit
Health, Physical Education and Personal Development				
Physical Ed. 1 (boys & girls)	5	Required	10	1 unit
Physical Ed. 2 (boys & girls)	5	Elective	11-12	1 unit
Health	2½	Required	12	½ unit
Senior Guidance	2½	Required	12	½ unit

Religious Education

Old Testament	5	Required	9-10	1 unit
New Testament	5	Required	10-11	1 unit
Church History	5	Required	11-12	1 unit
Book of Mormon	5	Elective	12	1 unit

Music

Chorus	5	Elective	10-12	1 unit
Band	5	Elective	10-12	1 unit

Science*

Physics	5	Elective	11-12	1 unit
Chemistry	5	Elective	11-12	1 unit
Biology	5	Elective	10-12	1 unit

Social Science**

American History and Gov't	5	Required	11-12	1 unit
World History	5	Elective	10-12	1 unit
Problems in Democracy	5	Elective	11-12	1 unit
"Honors" History	5	Elective	12	1 unit

Speech

Speech	5	Elective	9-12	1 unit
Advanced Speech	5	Elective	10-12	1 unit
Speech Workshop	5	Elective	10-12	1 unit

*These subjects are only partially elective as one of this group must be taken.

**One of these courses is required in addition to American History and Government.

College of Family Living

Jack B. Trunnell, Dean (1206 SFLC)

The following departments are in the College of Family Living:

Clothing and Textiles
Food and Nutrition
Homemaking Education
Human Development and Family Relationships
Housing and Home Management

Objectives: The program of the College of Family Living is designed to contribute to the accomplishment of the objectives of Brigham Young University, and in so doing to provide educational and research experiences which will help young men and women

- (1) to understand themselves and others,
- (2) to develop their capabilities,
- (3) to establish attractive and happy homes in which all facets of family living are integrated for the enrichment and strengthening of family life,
- (4) to accept responsibilities as family members in Church and community activities,
- (5) to earn a living and to make contributions in professions related to homes and families.

These aims are based upon the conviction that abundant living evolves primarily from the happy family. Such objectives have their roots deep within the culture of the Latter-day Saints. Family life is the matrix of spiritual development, the foundation of society, and the basic unit of the Kingdom of God.

A portion of the curriculum is adapted to the needs of men and women who do not carry major work in a department of the College of Family Living. Every student in the University is urged to elect at least one such course in order that he may become a better family member.

Scope. The experiences of family living involve the discoveries of science, the insights of the humanities and the fine arts, the inspiration of religion, and the enjoyment of recreation, all taught in other colleges of Brigham Young University. Other college listings are used liberally in order to integrate and organize educational experiences which will increase students' capacities to participate in effective family and community living.

To the extent that the needs of today's families are understood, course offerings in this college are related to those needs, and are prepared for both men and women students. Within the framework of the curriculum, the entire cycle of family life from infancy to old age is considered. Educational experiences are directed toward the realization of increased understanding of human development and human relationships and toward the attainment of increased maturity in personal, family, and community living.

Informal Instruction. The College of Family Living provides a valuable non-credit academic instructional program designed to assist students with the practical phases of living, such as purchase and preparation of food for individuals and for groups, daily tasks of management, use of equipment, care and selection of clothing, and other aspects of living.

Two office centers—Rogers Hall 9B and Snow Hall 13B—are operated by consultant instructors where out-of-class, informal experiences help students live more effectively.

College of Family Living Requirements. All students registered in the college should elect Homemaking Education 91 (Orientation to Family Living) during the First Semester of the freshman year.

All students registered in the college shall elect three specified groups of courses (A from outside the college; B from within the college; and C from within the major department).

The courses in Group A, in addition to serving as a part of the group needed to meet general education requirements of the University, provide a background for work in the college. These should be elected in the freshman and sophomore years. The courses in Group B will help familiarize the student with work in all departments of the college, a desired objective since all departments are involved in the activities of the home, and since subsequent employment of majors increasingly requires broad knowledge of Family Living subject matter.

Group A, courses in departments outside of the college: G-PS: Chemistry, 8 hours; Physics, 3 hours (majors in Human Development and Family Relationships may arrange to fulfill the Physical Science requirement in other ways); G-BS: Bacteriology General, 3 hours; Zoology, 3 hours; (Botany may be substituted for Zoology by majors in Clothing and Textiles or Housing and Management); G-SS: Psychology, 3 hours; G-HA: Art, 2 hours.

Group B, courses in departments within the college: A total of 12 semester hours outside of the major is required, including at least one course and at least three hours in each of the three departments outside of the major.

Group C, courses in the major department: A minimum of 35 hours must be earned within the major department.

Affiliation with the Merrill-Palmer School. The College of Family Living has a cooperative arrangement with the Merrill-Palmer School in Detroit, Michigan. At present, we are privileged to send to the school several students a year. Students must be seniors or second semester juniors and are selected on the basis of scholarship, worthy representation of the Church and Brigham Young University, and the probable professional use of this experience. Credits earned there are accepted and allocated to the subject matter fields by Brigham Young University.

Classes and discussion groups are small. Observation and experience are a vital part of the program. Among the special fields represented at Merrill-Palmer are adult education, child development, family life education, gerontology, home economics, marriage counseling, nursery education, nutrition, psychology, religion, and sociology. To spend a semester at The Merrill-Palmer School is a unique and rewarding experience.

Graduate Study. A student who has completed all requirements for the bachelor's degree is classified as a graduate student. The work of all graduate students is under the jurisdiction of the dean of the Graduate School. The College of Family Living provides opportunities for work toward the master's degree in Human Development and Family Relationships, and in Food and Nutrition. The Doctor of Philosophy degree may be obtained in the field of Human Development and Family Relationships.

Professional and Honorary Clubs. The Home Economics Club is affiliated with the Utah and the American Home Economics Associations. Membership is extended to all students interested in home economics.

Gamma Phi Omicron is a local honorary organization of upper class women in the College of Family Living. A high scholastic average and active membership in the Home Economics Club are prerequisites to membership. The purposes of the organization are to foster a professional attitude, to orient students toward a good basic philosophy in home economics, and to help them to see the role that home economics plays in our civilization.

SCHOLARSHIPS AND AWARDS

Sophomores: Home Economics Club Award of approximately \$135.00 toward the combined first and second semester tuition is available each year to a woman student in the college who is an active member of the club and who has been of service to it for at least part of two academic years. Applications must be made by March 15th to the College Scholarships and Awards Committee on forms available in the office of the dean of the college. Election will be made by club members by ballot. Applicants must have a grade-point average of 2.65 (A=4, B=3, C=2) or above with no D on the record; must have a total credit at the time of application of no more than 115 credit hours and must have completed the following amount of credit: physical education, 3 hours; English, 9 hours (6 if this fulfills the freshman English requirement); chemistry, 9 hours; psychology, 5 hours; bacteriology, 4 hours; food and nutrition, 4 hours; and Health 130, 2 hours.

Juniors: Elizabeth Cannon Sauls Scholarship. The sum of \$25.00 will be awarded to a deserving junior in the College of Family Living. The award is based on good grade point average, need, good character, and professional potential.

Seniors: For many years recognition awards have been given annually to members of the senior class:

The **Leah D. Widtsoe** silver loving bowl to a senior of sterling character who has made marked progress during her years of study, and who at the same time has rendered service to her classmates, her college, and the University.

The **Hazel Noble** medal to an outstanding graduating senior with fine womanly qualities and commendable professional attitude who applies to her daily living the knowledge acquired in her studies in the college.

The **Gamma Phi Omicron** award to a senior of high scholastic standing and good character who, as indicated by her accomplishments and services during her college career, shows promise of becoming a credit to her college and her profession.

H.D.F.R. Outstanding Senior Achievement Award to 2 seniors in the Department of Human Development and Family Relationships who are selected on the basis of their high scholastic standing, marked progress in their field of study, and professional promise.

Graduate Students: The **Walter Ellis Trunnell** award to the graduate student whose research in connection with thesis or dissertation is judged to reflect the most original thinking and significant contribution to the improvement of family life and service to the Church.

College of Fine Arts

Conan E. Mathews, Dean (312 E)

The following departments are in the College of Fine Arts:

Art
Music
Speech and Dramatic Arts

The policy of the University has always provided for a liberal patronage of the fine arts. The organization of the College of Fine Arts in 1925 was the result of desire to offer students greater opportunities for better coordinated academic and professional growth.

With exceptionally well-prepared faculties, students have received the benefits of extended study in recognized schools and art centers, and adequate physical equipment in all departments, the College of Fine Arts has become favorably known for the artistic and academic work done under its direction.

Any course offered in this college that leads to the baccalaureate degree is the cultural equivalent of other college courses offered in the University, differing from them mainly in respect to the emphasis placed on the study of the fine arts.

The Art Department offers curricula in art education, commercial art, interior design, painting, printmaking and painting, sculpture and ceramics, and a general art program.

The Music Department lists courses in theory of music; musicology; applied music, both instrumental and vocal; music education for elementary and secondary school teachers; and music for non-music majors.

The Department of Speech and Dramatic Arts lists courses of study in public address and forensics, radio and television, theatre and dramatic arts, speech and hearing rehabilitation, speech education for elementary and secondary school teachers and general speech for non-majors.

MAJORS AND MINORS

Majors are selected from the work offered in the above-mentioned departments; minors may be selected from them or from other departments in the University which offer allied work.

General College

Wayne B. Hales, Dean (280 ESC)

The General College is separated into three areas:

- The Division of Provisional Registration
- The Technical and Semi-Professional Institute
- The Department of Industrial Education

The General College has been added to the academic structure of Brigham Young University to meet more adequately the changing educational demands of the University and to achieve more perfectly the objectives of the University. The General College is designed to help students develop responsible citizenship in the Church and state, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society. To achieve these objectives, the General College has been organized to take care of the educational needs of the following students.

Each year a large number of students come to the University undecided on a major field. These students will register in the **Division of Provisional Registration**. In this division the student is assigned a registration adviser who serves as his adviser on academic problems during the one or two years he is in Provisional Registration. Therein the students will pursue outlined courses in general education. At the end of one or two years of study, they must select a major, transfer to the appropriate college, and continue studies toward a baccalaureate degree.

Ten curricula are provided for students who may have interests in given fields. These curricula are as follows:

BIOLOGICAL SCIENCE, PRE-MEDICAL AND PRE-DENTAL

A student having an interest in the fields of botany, bacteriology, and zoology or in the pre-dental and pre-medical areas should register for the following courses. He may transfer to the major of his choice at any time during his freshman or sophomore year and continue his work toward a baccalaureate or other professional degree.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Chemistry 113, 221	3	3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Physics 201, 202	4	4
Math 111	5		Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Zoology 105		3	Zoology 176 or 376	3	
Chemistry 111, 112	4	3	Zoology 212, 213	4	4
Health 130	2		Electives	1	4
History 170 or 180		5			
Social Science or					
Humanities	2				
	<hr/> 18 $\frac{1}{2}$	<hr/> 16 $\frac{1}{2}$		<hr/> 17 $\frac{1}{2}$	<hr/> 17 $\frac{1}{2}$

BUSINESS

The following is a suggested two-year program for students who have a general interest in business but are undecided about the particular area in which to major. With the exception of English composition and physical education, which must be taken the first year, the freshman and sophomore courses shown may be taken interchangeably. Students may transfer into the College of Business at any time.

Freshman Year			Sophomore Year		
	F	S		F	S
English 111, 112	3	3	Religion	2	2
Religion	2	2	Economics 274 (Humanities)		3
English (Literature)		3	History 170		3
Physical Education	½	½	Biological Science		3
Physical Science**	3		Physical Education	½	½
Health 130	2		Business Management 315	2	
Economics 111	3		Business Management 347		3
Accounting 201 or 211 ..		5	Statistics 231		3
	3	3	Economics 112	2	
			Business Management 205		2
			Mathematics 101 or Statistics 131*	3-2	
			Electives	4	
	<u>16½</u>	<u>16½</u>		<u>16½</u>	<u>16½</u>

*With 1½ years of high school algebra, this course may be omitted.

**Any of the courses listed under Physical Science in the General Education Requirements will fill this requirement.

EDUCATION

A student having an interest in elementary education should register for these courses. At the end of his freshman or sophomore year he may transfer to the College of Education without loss of credit and continue his studies toward a Bachelor of Science or Arts Degree.

A student having an interest in secondary education should register for the appropriate courses in other areas of Provisional Registration. For example, a person wishing to teach biological science in the secondary schools should register in courses under biological science, pre-medical, and pre-dental. Or if a person wishes to teach industrial arts he should register in the Department of Industrial Education. At the end of his sophomore year, he may transfer to the appropriate college or to the College of Education without loss of credit and continue his studies toward a Bachelor of Arts or Science Degree.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Music 102, 237	2	2
Physical Education			Economics 101	3	
Elective*	1½	1½	Psychology 111	3	
Physical Science 101, 102	3	3	Physical Education		
History 170 or 180	3		Elective*	½	½
Art 110, 226	2	2	Physical Science		
Health 130	2		Elective*	2	
Speech 121		2	Botany 101 or		
Bacteriology 121		3	Zoology 105		3
			Anthropology 101 or		
			Geography 120	3	
			English or American		
			Literature		3
			History 360		3
			Electives	2	3
	15½	15½		17½	16½

FAMILY LIVING

Freshman Year

	F	S
Religion	2	2
English 111, 112	3	3
Chemistry 101	4	
Chemistry 102		4
Art 101 or 110	2	
Homemaking Ed. 91	0	
Clothing and Textiles 110	2	
Physical Education	½	½
Physics 100	3	3
Bacteriology 121		3
Elective		2
	<hr/> 16½	<hr/> 17½

	F	S
Religion	2	
H.D.F.R. 210 (religion credit)		3
Psychology 111	3	
English Literature	2	
Nursing 288	2	
Health 130	2	
Zoology 105	3	
Food and Nutrition 110 or elective	2	
Housing and Home Mgt. 220		2
Food and Nutrition 255		3
Clothing and Textiles 165		4
Clothing and Textiles 260		3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
	16½	15½

The following is a suggested sequence of courses for students who have interests in the fields of art, music, and speech and dramatic arts. At the conclusion of the freshman or the sophomore year, the student should transfer to the College of Fine Arts and continue his work toward a baccalaureate degree.

Freshman Year

	F	S
Religion	2	2
English 111, 112	3	3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Health 130	2	
Physical Sciences*	3	3
Fine Arts Electives** ...	7	8
	<hr/> 17½	<hr/> 16½

	F	S
Religion	2	2
Foreign Language, 1st yr.	4	4
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Psychology 111 or Sociology 111	3	
History 170 or 180		3
Fine Arts Electives	8	8
	<hr/> 17 $\frac{1}{2}$	<hr/> 17 $\frac{1}{2}$

****Art 101, 122, and electives from 227, 233, 239, 250, 256, 263; Music 101, 102, 105 (or private lessons), 170 (or private lessons or other choral group); Speech 101, 121, and 241. It is strongly recommended that a student decide whether or not to major in music not later than the end of his first year.**

HUMANITIES

It is anticipated that the student who selects the program suggested below will have a general interest in the field of humanities, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements, will provide training in a foreign language in anticipation of the B.A. degree, and will offer a generous sampling of humanities courses to assist the student in selecting a major. See the College of Humanities and Social Sciences section of this catalog for the new Humanities major program.

Freshman Year			Sophomore Year		
	F	S		F	S
English 111, 112	3	3	Religion	2	2
Religion	2	2	Foreign language	4	4
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	**Electives in		
Humanities 101	3		biological sciences	3	3
Foreign language	4	4	English 250	3	
History 170 or 180*		3	**Electives in		
Health 130		2	social sciences	2-3	3
**Electives in			**Electives in		
physical sciences	3	3	humanities	2-3	5
	<hr/>	<hr/>		<hr/>	<hr/>
	15 $\frac{1}{2}$	17 $\frac{1}{2}$		18	17

*Students who anticipate majoring or minoring in history, journalism, or political science, should take History 120 or History 121 or Political Science 110 instead of History 170 or 180.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill general education credit in these areas.

NURSING

Any student who is interested in Nursing and trying to determine her major should confer with the Dean of the College of Nursing or an advisor in the College of Nursing regarding the program and opportunities. Only one semester of courses are offered in the General College for those who are interested in Nursing.

Freshman Year	
	F
Religion	2
English 111	3
Physical Education	$\frac{1}{2}$
Chemistry 101	4-5
Psychology 111	3
Zoology 105	4
	<hr/>
	16-17 $\frac{1}{2}$

PHYSICAL EDUCATION

The following is a suggested sequence of courses for students who have interests in the fields of recreation, physical and health education, athletics, and youth leadership. When a decision is reached to definitely major in one of these areas, the student should immediately transfer to the College of Physical Education and continue his work toward a baccalaureate degree. He should consult the sections of the catalog dealing with those departments for details for majors in health, physical education, recreation, and youth leadership.

MEN

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Humanities	2	2
Physical Education			Physical Education		
231, 232	1	1	233, 234, 235	1	2
*Physical science	3		Zoology 264		5
History 170 or 180		3	Sociology 111		3
Health 130		2	Psychology	3	
Humanities	2	3	*Physical science	3	
Bacteriology, Botany, or			Instruction 301		1
Zoology	3		Health 121	2	
Minor subject area	2	2	Minor subject area	2	2
Physical Education			Physical Education		
180, 181	$\frac{1}{2}$	$\frac{1}{2}$	182	$\frac{1}{2}$	
Physical Education			Physical Education		
390, 391	0	0	390, 391	0	0
Elective		1	Elective	2	
	<hr/>	<hr/>		<hr/>	<hr/>
	16 $\frac{1}{2}$	17 $\frac{1}{2}$		17 $\frac{1}{2}$	17

*Any of the courses listed under Physical Science of the General Education requirements will be approved.

WOMEN

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Physical Education		
Physical Education			224, 245	2	2
241, 242	2	2	Physical Education		
Physical Education			181, 182, 183	1	$\frac{1}{2}$
390, 391	0	0	Physical Education		
Physical Education			180, 160	$\frac{1}{2}$	$\frac{1}{2}$
187, 188, 189	1	$\frac{1}{2}$	Physical Education		
*Physical sciences	3	3	390, 391	0	0
History 170 or 180	3		Zoology 105, 264,		
Health 130		2	Bacteriology 121 or		
Humanities	2	3	Botany 101	3	5
Elective		2	Psychology 111	3	
	<hr/>	<hr/>	Humanities		3
	16	17 $\frac{1}{2}$	Minor	2	
			Health Education 362		2
			English (literature)	3	
			Electives (Physical		
			Education)	1	2
	<hr/>	<hr/>		<hr/>	<hr/>
	16	17 $\frac{1}{2}$		17 $\frac{1}{2}$	17

*Any of the courses listed under Physical Science of the General Education requirements will be approved.

PHYSICAL AND ENGINEERING SCIENCES

The following course of study is recommended for one or two years. At the end of either, the student may choose a major, transfer into the College of Physical and Engineering Sciences, and pursue his education to the completion of a Bachelor of Science Degree in chemistry, geology, mathematics, or physics, or a Bachelor of Engineering Science in chemical, civil, electrical, or mechanical engineering science.

Freshman Year			Sophomore Year		
	F	S		F	S
Mathematics*	5	5	Mathematics 213, 214	5	5
Chemistry 111, 112	4	3	Physics 211, 213	4	4
English 111, 112	3	3	Physics 213, 214	1	1
Religion	2	2	Religion	2	2
Physical Education	½	½	Physical Education	½	½
Health 130		2	History 170 or 180	3	
Electives	3	3	Electives (Biology and/or		
			Humanities)	2	5
	<u>17½</u>	<u>18½</u>		<u>17½</u>	<u>17½</u>

*All entering freshmen intending to take mathematics must take the mathematics placement test before or at the time of registration.

SOCIAL SCIENCE

It is anticipated that the student who selects the program suggested below will have a general interest in the social sciences, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements and should permit a generous enough sampling of social science courses to assist in selecting a major.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Economics 101 or 111 ..	3	
Physical Education	½	½	Geography 101 or 120 ..		3
Health 130	2		Political Science	3	
Sociology 111 or 112	3		Anthropology 101		3
*History 170 or 180	3		English (literature)	2	2
Psychology 111		3	**Foreign language or elec-		
**Electives in			tives in humanities ..	4	4
physical science	3	3	**Elective in		
**Elective in			biological science	3	
biological sciences		2-3	Elective in		
**Elective in			social sciences		3
humanities		2-3			
	<u>16½</u>	<u>17½</u>		<u>17</u>	<u>17</u>

*Students who anticipate majoring in economics, history, journalism, or political science should take History 120 or 121 or Political Science 110 instead of History 170 or 180.

**Students should be sure that the courses selected in physical science, biological science, and humanities fill general education credit in these areas.

If a student completes one of these curricula, he may transfer into one of the other colleges of the University with a minimum of lost time, credit, or standing, and will advance as a junior in the college of his choice without professional handicap.

The same entrance requirements as have been set up for the rest of the University are required in Provisional Registration.

Other students come to the University with a desire to obtain technical training in special fields of engineering, business, and agriculture. To satisfy these needs, the University has established a **Technical and Semi-Professional Institute**. Prescribed semi-professional and technological courses have been organized on a two-year level, at the completion of which students will receive suitable terminal certification. Employability of graduates is the major objective of the Technical and Semi-Professional Institute.

Students interested in industrial arts will register in the **Department of Industrial Education** which is administered through the General College. A major student in the department is offered a rich variety of courses in mechanical drawing, metalwork, woodwork, and related vocational industrial-educational subjects. A terminal Bachelor of Science degree is granted at the completion of the prescribed general education and the major and minor requirements.

The same standards of excellence in scholarship and moral behavior will be expected of students of the General College as is expected in other areas of the University.

College of Humanities and Social Sciences

Leonard W. Rice, Dean (329 McKay)

The following departments are in the College of Humanities and Social Sciences:

- Archaeology
- English
- Geography
- History
- Journalism
- Languages
- Political Science
- Psychology
- Sociology and Anthropology

The most fascinating study has always been man—what he has done, what he has thought, what he has said and how he has reacted to problems confronting him.

The humanities seek to discover, preserve, and disseminate the best of man's thoughts and creations. The social sciences study the activities and relationships of man: his nature, his power to communicate, his environment, what motivates him, how his activities progress, the institutions he has created, and the important social and governmental problems with which he must deal. The humanities and the social sciences are therefore related disciplines whose purpose is to help man live in the most intelligent and satisfying manner.

The humanities are the study of what man has created, including his language, literature, art, and the record of his activities as revealed in archaeology and history. The social sciences are younger disciplines utilizing the modern methods of science: controlled observation, laboratory experimentation whenever possible, statistics, and analytical reasoning. Their potential significance for a troubled world is tremendous.

There are two large purposes for which the instructional program of the College of Humanities and Social Sciences is designed. One is the provision of a broad and liberal education, to assist those who obtain it to receive in the fullest measure the values to be found in the complex civilization of today and to contribute to the enlargement of those values in an effective and acceptable manner. The other is the preparation of a more limited group as qualified contributors to the discovery of additional truth to add to our present heritage and as capable professional participants in the productive affairs of daily living.

Courses intended to contribute to the first purpose are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each department. Advisers stand ready to consult with students in the selection of studies that will contribute most effectively to a broad education and to specialized training in each department.

Pre-Legal Course

There is no single prescribed pre-law program. A student may major in any one of several fields as basic preparation for law school. The prime requisite of a successful lawyer is a well-disciplined mind. It must be capable of embracing complex situations—identifying subtle distinctions and appraising arguments. It must be able to weigh opposing considerations and be capable of sustained effort over long periods of time. To produce such a mind, the college schedule should include courses intended to expand the mental powers of a student to the utmost and to bring about precision of thought.

The following important advice given by a leading law school may well be noted by pre-legal students:

"Few ideas are more fallacious or harmful than the notion that it is possible to dawdle through high school and college and then make the adjustment to higher standards promptly upon entering the professional school. Essential habits of concentration and effective methods of study must be acquired and developed during the pre-legal years."

In addition to the courses in general education prescribed by the University, it is suggested that a satisfactory pre-legal course might be selected from the following fields: English, political science, history, economics, accounting, psychology, speech, sociology, and mathematics.

Because of the growing tendency of law schools either to recommend or demand that the entering student have a B.A. or B.S. degree, the pre-legal student should plan his freshman and sophomore programs toward the acquisition of a bachelor's degree.

Hispanic American Studies Major

Supervisor: Lee B. Valentine (341 McKay)

The Hispanic American Studies Program is an interdepartmental program within the College of Humanities and Social Sciences which provides a major or a combined major and minor leading to the A.B. degree; it does not provide a minor alone. The program is designed to meet the professional and cultural goals of persons especially interested in Latin America whose needs are not served by a major in one department. The Language Department offers training in the literature and language of Latin America; the Geography Department, the geography and economy of the area; the Political Science Department, the governments and political institutions. Certain persons who seek employment in business or governmental agencies in Latin America, or who for other reasons are interested in the area, may best prepare themselves professionally by broad study in the literature, language, culture, geography, politics and economy of the region. Such persons may enroll in the Hispanic American Studies Program. They cannot expect to receive the depth in one subject which a conventional major would give them, but the greater breadth and the comprehensive understanding of the area itself will compensate for the sacrifice of depth in a single subject.

Requirements for a major:

- (1) 22 hours in Spanish language courses from the "A" list below, 10 of which are upper division.
- (2) 4 hours or two courses of specified upper division classes in Spanish-American or Spanish literature.
- (3) 4 hours or two courses of specified classes from the "A" lists in each of three of the following subjects: anthropology, archaeology, geography, history, and political science.

The minimum required for a major is 38 hours, but it may be more, depending on the classes elected. 24 hours must be upper division.

Requirements for a combined major and a minor:

- (1) Completion of the above requirements for a major.
- (2) 4 hours or two courses of specified classes from the "A" list of one of the listed subject-matter fields not included in the major.
- (3) 5 hours in at least three courses from the "B" lists of the six fields included in the major and minor; must be approved by supervisor.

The minimum for a major and minor is 47 hours, but it may be more. 33 hours must be upper division.

The supervisor may approve satisfactory equivalents, in consultation with the

departments. However, in no case shall the required totals be less than these stated above.

Following are the courses in the program:

Anthropology

"A" list:

	Hours
Anthropology 246. The Growth of Culture in the New World	2
Anthropology 418. Native Peoples of Central and South America	2

"B" list:

Anthropology 448. Ancient Cultures of Central and South America	2
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Archaeology

"A" list:

Archaeology 440. Ancient Peoples and Civilizations of Middle America	3
Archaeology 480. Ancient Peoples and Civilizations of the Andes ..	2

"B" list:

Archaeology 590. Recent Developments in Archaeology	4
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Geography

"A" list:

Geography 455. Latin America	3
Geography 490. Readings	1

"B" list:

Geography 491. Readings	1
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History

"A" list:

History 351. Colonial Latin America	2
History 352. National Latin America	2

"B" list:

History 334. Spain	2
History 353. Mexico	2
History 498. Readings	TBA

Political Science

"A" list:

Political Science 560. Governments of Latin America	2
Political Science 565. International Organizations	2

"B" list:

Political Science 498. Readings	1-2
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Spanish (language)

"A" list:

Spanish 101, 102. First Year Spanish	4 ea.
Spanish 201. Second Year Spanish Reading and Conversation	4
Spanish 301. Selected Readings	4
Spanish 321, 322. Advanced Composition and Conversation	3 ea.
(In exceptional cases approval may be granted to substitute Portuguese 321 and 322 for Spanish 321 and 322.)	

Spanish (literature)

"A" list:

Two 3-hour courses from the following series:

Spanish 451, 452. Survey of Spanish-American Literature and

Culture	3 ea.
Spanish 441, 442. Survey of Spanish Literature and Culture	3 ea.

(In exceptional cases approval may be granted to substitute Portuguese 431 or 432 for one of these two courses.)

"B" list:

Any courses in the "A" list above not taken for the major are recommended for the minor.

Humanities Major

Supervisor: Bruce B. Clark (305 McKay)

For capable students in the humanities whose educational objectives are not met by a conventional major in one department and a minor in another, the college offers an interdepartmental major in the humanities. Students will take, in lieu of a regular departmental major and minor, 50 semester hours in art, history, literature (including foreign literature), and music, and will be advised to support these subjects with courses in philosophy, the social sciences, and other related areas. Students will also complete a foreign language program sufficient for the B.A. degree. Of the 50 semester hours required in art, history, literature, and music, at least 25 must be upper-division work.

The educational and vocational goals of most students are best served by a conventional major and minor. A selected few students, however, will profit from broader training which includes intensive work in several of the humanities subjects. Such a program has broad cultural value. Through it students may acquaint themselves with the relationships among the various humanities subjects and obtain a valuable liberal education consisting of substantial, well-balanced work in the broad field of the humanities.

Students may enter the humanities program only with permission of the supervisor and should register each quarter thereafter under his direction.

1. Courses Required for the Major in Humanities:**Hours**

a. Humanities 101. (To be taken in the freshman or sophomore year) 3

b. Art—at least 8 semester hours selected from the following (courses preceded by an asterisk are especially recommended):

Art 101. Introduction to Art	2
Art 110. Design in Everyday Life	2
*Art 122. Basic Figure Drawing	3
*Art 306. Art History and Appreciation	3
*Art 307. Contemporary Art	2
Art 308. American Art	2
Art 403. Ancient and Primitive Art	2
Art 405. Medieval and Renaissance Art	3
Art 501. Aesthetics	2

Note: Humanities majors are also encouraged to take one or two of the following courses: Art 227, 233, 239, 250, 256, 263.

c. English—at least 14 semester hours selected from the following courses in English, American, and comparative literature (courses preceded by an asterisk are especially recommended):

*English 251 or 250. Fundamentals of or Introduction to Literature	3
English 252. Introduction to Poetry	2
English 253. Introduction to Drama	2
English 260. Masterpieces of American Literature	3
English 270. Masterpieces of English Literature	3
*English 282 or 382 or 582. Shakespeare	2 or 3
English 331, 332, 333. The English Novel	2 ea.
English 335, 336. The American Novel	2 ea.
English 338. The European Novel	3
English 345. The Spirit of Tragedy in Literature	3
*English 355, 356, 357, 358. World Classics	3 ea.
English 359. The Short Story	2
*English 361, 362, 363. American Literature	3 ea.
English 366. Modern Poetry	2

*English 371, 372, 373, 374, 375. English Literature	3 ea.
English 376. Twentieth Century English Literature	2
English 481. Chaucer	3
English 483. Milton	2
English 541, 542, 543. English and American Drama	2 ea.
English 550. The Criticism and Appreciation of Literature	3

d. History—at least 10 semester hours selected from the following:

History 110, 111. World Civilization	3 ea.
History 304. Greek History and Civilization	3
History 307. Roman History and Civilization	3
History 312. Renaissance and Reformation (counts also as religion)	2
History 373. American Intellectual and Cultural Growth	2
History 503. Literary History of the Greeks	2
History 509. Literary History of the Roman Empire	2
History 512. Medieval Thought and Culture	2
History 528. Modern European Thought and Culture	2
History 548. Culture of Asia	2

e. Languages—at least 6 semester hours selected from the following:

French 431, 432. Masterpieces of French Literature	3 ea.
French 441, 442. Survey of French Literature and Culture	3 ea.
German 431, 432. Masterpieces of German Literature	3 ea.
German 441, 442. Survey of German Literature and Culture	3 ea.
Italian 431, 432. Masterpieces of Italian Literature	3 ea.
Latin 441, 442. Survey of Latin Literature and Culture	3 ea.
Portuguese 431, 432. Masterpieces of Brazilian and Portuguese Literature	3 ea.
Russian 431, 432. Masterpieces of Russian Literature	3 ea.
Spanish 431, 432. Masterpieces of Spanish and Spanish-American Literature	3 ea.
Spanish 441, 442. Survey of Spanish Literature and Culture	3 ea.
Spanish 451, 452. Survey of Spanish-American Literature and Culture	3 ea.

f. Music—at least 8 semester hours selected from the following:

Music 103. Survey of Music Literature	2
Music 484, 485. History of Music	3 ea.
Music 501. Music in America	3

Note: Humanities majors are also encouraged to take one or two of the many participation courses offered by the Music Department.

2. Supporting Courses in General Education Recommended for the Major in Humanities:

a. Religion—at least 7 semester hours selected from the following:

Church History 453. World Religions	2
Church History 555, 556. Comparative World Religions	2 ea.
Philosophy 380. Survey of Philosophy	2
Philosophy 482. Ethics—Plato to Dewey	2
Philosophy 483. Problems of Knowledge	2
Philosophy 484. Types of Religious Philosophy	2
Philosophy 580, 581. History of Philosophy	3 ea.
Philosophy 582. Contemporary Ethics	2
Philosophy 584. Current Trends in Philosophy of Religion	2
Philosophy 585, 586. Contemporary Philosophy	2 ea.
Philosophy 587. Scholasticism, Humanism and Mysticism	2

b. Courses selected as desired from the following:

Anthropology 101. Introductory Anthropology (G-SS)	3
Anthropology 111. Cultures of the World (G-SS)	3
Anthropology 241. The Growth of Culture in the Old World (G-SS)	3

Anthropology 246. The Growth of Culture in the New World (G-SS)	2
Archaeology 310. Introduction to Oriental and Biblical Archaeology (G-HA) (counts also as religion)	3
Archaeology 320. Introduction to Classical and Christian Archaeology (G-HA) (counts also as religion)	2
English 350. The Bible as Literature (G-HA) (counts also as religion)	2
Geography 120. Geography in World Affairs (G-SS)	3
Geology 101. Introduction to Geology (G-PS)	2
Geology 103. Life of the Past (G-PS)	3
Psychology 350. Introduction to Social Psychology (G-SS)	3
Psychology 550. Psychology of Personality (G-SS)	3

3. Other Supporting Courses (not in General Education) also Recommended for the Major in Humanities:

Political Science 301. The Development of Political Thought	3
Psychology 540. Abnormal Psychology	3
Psychology 552. Personality: Culture and Society	3
Sociology 505. Sociological Principles	3

College of Nursing

L. Bernice Chapman, Dean (2240 SFLC)

The basic collegiate program in nursing prepares young men and women as professional nurses qualified to function as leaders of the nursing team and to fill beginning positions in all clinical areas of nursing: maternal and child health, medical-surgical, public health, and psychiatric nursing. It is expected that these nurses will function productively in contributing to comprehensive patient care, prevention of illness, and promotion of health through working with patients and with professional and community groups. The program also endeavors to increase an awareness of spiritual, social, and civic responsibilities and the understanding of human behavior. Nurses so trained will enjoy a more satisfying personal, family and community life, consistent with the philosophy of the Church of Jesus Christ of Latter-day Saints.

The curriculum of the College of Nursing is organized to provide a balance of general and professional education. General education courses which partially fulfill University requirements are given in the first semester. Beginning in the second semester, courses in professional nursing are correlated with general education. Concepts of communications, mental health, pharmacology, nutrition, professional ethics, health teaching, inter-personal relationships, and spiritual values are integrated throughout the program.

The course of instruction covers four academic years and one or two summer terms. Clinical practice is a closely supervised laboratory experience with theory courses given concurrently. At the completion of the program the student receives a Bachelor of Science degree and is eligible to take the state examinations for the license to practice nursing as a Registered Nurse and to use the title R.N. She is eligible for Public Health Nursing Certification.

Instructors are full time University faculty members and have general and professional educational backgrounds consistent with the academic rank they hold. The College of Nursing is accredited by the National League for Nursing Accrediting Service and is approved by the Representative Committee for the Practice of Nursing in Utah.

Requirements

Admission. All applicants must meet University admission requirements. For background in high school, prospective students are advised to take three and preferably four units of English, one unit of algebra (a unit of geometry is desirable), and a unit of chemistry and/or a unit of biology, preferably both.

A student should register in the College of Nursing upon entrance to B.Y.U., but may enroll in the General College for the first semester in the prescribed courses for students in nursing. In order to continue in nursing the student must then transfer to the College of Nursing. Personal interviews with a faculty member and completion of special forms are required during the first year at the University.

Progression. Continuance in the College of Nursing will be determined by the health records, adaptability to nursing as evidenced by attitudes and skills, and University grades. The grade average requirements are as follows:

- a. First semester freshman students must make a 1.75 grade average.
- b. Second semester freshmen must make a 2.00 ("C") grade average. Students making a 1.75 to 2.00 average in either the second semester or summer term may continue their registration on probation.
- c. The cumulative grade average for freshman students at the beginning of the second year must be 2.00. Students making a 1.90 to 2.00 average may continue registration on probationary status during the fall semester of the second year.

An average grade of "C" (2.00) must be maintained each semester to remain in the College of Nursing.

Graduation. Candidates for a degree must fulfill the University requirements for graduation. It shall be the student's responsibility to meet these requirements. Courses for the major and minor for graduation are provided in the College of Nursing program.

Advisement

Each student seeking registration in the college has a faculty adviser who will help in the selection of courses and the planning of a schedule. It is desirable to consult with the adviser as early as possible in order to avoid lengthening the program unnecessarily. Sequence courses in chemistry and zoology necessitate beginning the program in the First Semester. The adviser will check the student's academic progress and help him use the resources of the University to the greatest advantage.

Assistance in program planning during the time the student is determining his major interest is available through the College of Nursing Office.

Transfers. For information on transfers from another college within the University, or admission to the College of Nursing from another institution, the student should consult with the Dean of the College of Nursing.

Fees and Scholarship

Total educational costs are borne by the student. See the section titled "University Fees" for listing of general University expenses. To these the student should add the cost of uniforms. An itemized estimate of the costs to a student in the College of Nursing is available upon request.

The University policy concerning scholarships for leadership and academic standing are applicable to all students in the College of Nursing. After the freshman year, a few special scholarships are available for nursing students with demonstrated financial need.

College Organizations

The Brigham Young University Student Nurses' Association is affiliated with the Utah and American Student Nurses' Association. This is a professional organization for students in the College of Nursing. Membership is extended to all students enrolled in nursing. The goals of the organization are to promote social, cultural, and educational activities; to foster cooperation and good fellowship; and to maintain the scholastic and moral standards of the University. Regular meetings are held each month alternating between Provo and Salt Lake City. Representatives of the local association attend the state association meetings and the national meetings. Association members have opportunities to develop leadership abilities, acquire professional attitudes and knowledge, and gain friends through working together.

Educational Facilities

Students use the same facilities and have the same cultural opportunities as all other students on the campus. The newest and most effective teaching aids and equipment are provided in the College of Nursing laboratories and classrooms. The facilities utilized for nursing experience change from year to year depending upon the needs of the students and the learning experiences selected by the faculty. At present, clinical experience is provided in the Latter-day Saints Hospital in Salt Lake City, the Primary Children's Hospital in Salt Lake City, Utah Valley Hospital of the Church of Jesus Christ of Latter-day Saints in Provo, Utah State Hospital in Provo, Utah City-County Health Department in Provo, Salt Lake City Health Department, Salt Lake County Health Department, and

other civil agencies. The hospitals are approved by the Joint Commission for the Accreditation of Hospitals, which is an organization sponsored by the American Hospital Association, American College of Surgeons, American Medical Association, and American College of Physicians.

The Latter-day Saints Hospital in Salt Lake City has a capacity of 500 adult beds and 100 bassinets. It provides clinical fields for the practice of medical, surgical, operating room, obstetrics, and pediatric nursing.

The Primary Children's Hospital in Salt Lake City, with a bed capacity of 72 (including an isolation unit of 12 beds) provides experience in the care of the child.

The Utah Valley Hospital of the Church of Jesus Christ of Latter-day Saints has a current capacity of 160 beds and 36 bassinets. At the present time these facilities are used by the college for the practice of beginning nursing skills.

The Utah State Hospital in Provo, with a bed capacity of slightly more than 1000, provides experience in psychiatric nursing.

The Utah City-County Health Department, the Salt Lake City Health Department, and the Salt Lake County Health Department provide a generalized public health nursing program and offer field experience in nursing.

College of Physical and Engineering Sciences

Armin J. Hill, Dean (294 ESC)

The college is divided into nine departments:

- Air Science
- Chemical Engineering Science
- Chemistry
- Civil Engineering Science
- Electrical Engineering Science
- Geology and Geological Engineering Science
- Mathematics
- Mechanical Engineering Science
- Physics

The Department of Air Science (AFROTC) is under the direct supervision of regular officers of the United States Air Force. A description of the requirements and activities of this department, is given in the section on Air Science (AFROTC) under List of Courses.

Required High School Preparation

A student enrolling in the College of Physical and Engineering Sciences will find it necessary, in order to complete the prescribed curricula without loss of time, to have successfully completed the following high school courses or their equivalents:

3 units of English

3 units of mathematics which include at least one unit of plane geometry and one and one-half units of algebra with additional course work in algebra, trigonometry, or solid geometry strongly recommended

1 unit of physical science which should be either chemistry or physics

Each entering freshman who intends to take mathematics courses will be given a placement test. If his high school training is found deficient, he will be required to take remedial work. On the other hand, if this test shows unusual proficiency, he may be excused from taking some of the more elementary college mathematics.

A student who has not met these requirements may make up his deficiencies by enrolling in special courses designed for this purpose or by successfully passing an examination designed to show that he has sufficient understanding of subject matter to carry his regular college courses satisfactorily. He should recognize that the time required to complete his college program will probably be extended by the length of time necessary to make up these deficiencies.

A student who has not completed these recommended courses by the time he graduates from high school may complete them through home study courses or other courses offered by the Brigham Young University Extension Services. Information on these courses will be sent on request.

Physical Sciences

Each of the four departments in the physical sciences offers a four-year course leading to the degree of Bachelor of Science or Bachelor of Arts. Candidates for graduation in these departments must meet the general University requirements for such degrees and must also meet the special requirements which are outlined in each department.

The majors offered in these departments leading to a four-year degree are

in chemistry, chemistry teaching, pre-dental chemistry, pre-medical chemistry, geology, mathematics, and physics. In addition to these, a major in mathematical statistics is offered in this college through cooperation of the departments of mathematics and physics.

Engineering Sciences

Information from leading engineering colleges indicate that generally students are requiring in excess of four years time to complete requirements for their bachelor degrees even though the schools claim to give four-year programs. Brigham Young University has adopted a five-year program which has a heavy emphasis on science and mathematics, retaining a strong emphasis on general education as recommended by the American Society for Engineering Education. As much as one full year of basic mathematics is offered above that given in most four-year schools. The five-year arrangement makes it possible to use this and the additional basic science courses as foundational material for excellent engineering training. The results have been widely acclaimed by industrial leaders over the country. Graduates of these courses are moving directly into the best graduate schools in the nation or are finding employment in choice positions as research and development engineers in industry.

Five-year courses, leading to a degree of Bachelor of Engineering Science, are offered in the Departments of Chemical Engineering Science, Civil Engineering Science, Electrical Engineering Science, and Mechanical Engineering Science. A similar course in Geological Engineering Science is offered by the Department of Geology and Geological Engineering Science. To obtain the degree of Bachelor of Engineering Science, the student must fulfill the same general education requirements which apply to the B.S. degree conferred by Brigham Young University.

A student must have received an average grade of "C" or better in calculus and physics before being admitted as a regular third-year engineering student. A student who has not attained this average but feels he has the qualifications for undertaking engineering work may petition the department for special consideration. If he is admitted, it will be on a probationary status subject to a continual review. If his work subsequently proves unsatisfactory, he will not be permitted to continue in the department.

College of Physical Education

Milton F. Hartvigsen, Dean (204 SFH)

The following departments are in the College of Physical Education:

- Health and Safety Education
- Intercollegiate Athletics
- Physical Education—Men
- Physical Education—Women
- Recreation
- Youth Leadership

The following additional areas are given special attention:

- Dance
- Intramural Sports
- Pre-Physical Therapy

This college, unique in American universities, has two significant contributions to make: service and development of leadership.

Outstanding in its services are those functions which contribute to student life. The physical education program provides vigorous participation in specific physical activities which are part of the cultural heritage of American youth. Basketball, dance, skiing, swimming, tumbling, football, field sports, gymnastics, softball and other activities provide opportunity for development, expression, and normal participation.

Those students with specialized skills in athletics are encouraged by well-coordinated programs in intramurals and in intercollegiate athletics. Through affiliation with the Mountain States (Skyline) Conference, there are opportunities for competition in basketball, football, golf, wrestling, track, baseball, tennis, and gymnastics. Varsity squads frequently make tours across the country meeting teams of other universities.

While opportunities for leadership by educated men and women are always unlimited, the demand is particularly high for those whose professional areas lie within this college. Professional training is emphasized in these major fields: recreation, youth leadership, physical education, and health and safety education. Certification for teaching in Utah may be completed, and certification for teaching in other states may be arranged readily. Dance and pre-physical therapy are given attention as areas in which students may specialize.

Brigham Young University is the first university to offer a major in youth leadership. The program is two-fold: the training of men for professional scouting and the preparation of men and women to serve the church and community in youth leadership capacities.

Brigham Young University alumni have gone to all points of the globe and have actively guided communities and Church members to the ends of abundant and wholesome living. The Church of Jesus Christ of Latter-day Saints, through its beliefs and its teachings, has developed a real heritage in health practices and in the family, Church, and community recreation. Brigham Young University, in harmony with the objectives of the Church, plans not only for participation by its members, but for active and exemplary leadership by them. It is a goal of this college to help achieve this.

Department of Recreation. This department has a number of basic functions in fulfilling its responsibility to the students, the University, the Church, and the profession. Among the responsibilities specifically recognized are (1) to prepare professional recreation leaders, (2) to qualify voluntary leaders for Church and community service, (3) to provide and supervise recreational activities for

students and faculty, and (4) to provide consultation service for campus, community, and state groups. To meet these responsibilities, this department has developed an expanded curriculum and secured many new facilities; others are being planned for the immediate future and a highly trained staff has been assembled to conduct the program.

The general purpose of the expanding intramural program is to afford all students the opportunity to take part in a well-organized program which includes a wide range of activities. An extensive program for both men and women is provided.

Departments of Physical Education. These departments, one for men and one for women, work together in providing (1) service courses, (2) professional training for prospective teachers of physical education and athletic coaching on the undergraduate and graduate levels, and (3) special curricula in dance and pre-physical therapy.

Physical education is planned to develop organic power, physical fitness, skill in activities, and enthusiasm for useful and desirable pursuits during leisure time throughout life. Its program is also planned to develop social habits and attitudes which will prepare students for leadership roles in college, Church, family, and community life. Many courses are offered on a coeducational basis.

Department of Youth Leadership. The objectives of the Department of Youth Leadership are two-fold: (1) to train college men and women in the basic knowledge and skills of the scouting program to the end that they can serve better their Church and the community in which they live, and (2) to provide training for prospective professional career men in youth leadership for the Boy Scouts of America and other allied organizations.

The need for trained youth leaders is greater now than at any time in the history of the world. The increase of population can only make this need greater. It is the sincere hope of the department that each member of the Brigham Young University student body will avail himself of this specialized training in order that he may be prepared to help either his Church as a volunteer or his nation as a professional scout.

Department of Health and Safety Education. Emphasis is placed on the educational aspects of health, including safety and driver education as well as the health sciences. This department functions in the promotion of proper health attitudes and practices. It also cooperates with the home, University health center, physicians and dentists, public health departments, and other groups which have responsibilities in the promotion of health. The health curriculum deals primarily with health instruction; stress is placed on personal hygiene, sanitation, nutrition, and personal safety practices. Courses are offered for all students and for teachers working toward certification in public schools of the state.

Department of Intercollegiate Athletics. Brigham Young University is a member of the Mountain States (Skyline) Conference and the National Collegiate Athletic Association. The school competes in all sports sponsored by the conference.

The athletic program at Brigham Young University serves as a vital educational training ground and laboratory dedicated to teaching young men important individual traits which will better enable them to perpetuate the American tradition. The program is designed to develop such characteristics as capacity to lead and direct, respect for discipline and authority, social and moral understanding, ability to act effectively under stress, capacity for self-discipline in the interest of accomplishment, and determination to overcome obstacles. Individual and team play promotes cooperation, sportsmanship, health, strength, and bodily vigor in the participants.

College of Religious Instruction

David H. Yarn, Jr., Dean (216 S)

The following departments are in the College of Religious Instruction:

Bible and Modern Scripture
Biblical Languages
L.D.S. Theology, Church Organization and Administration
History and Philosophy of Religion
Religious Education

This college administers all religious instruction which is sponsored by the University.

It has always been the view of the Church of Jesus Christ of Latter-day Saints that in the training of its youth there should be a proper integration of moral and religious values with secular knowledge. From its inception, Brigham Young University, firm in the belief that no life is full and complete unless established upon a sound ethical and religious basis, has offered courses in religion.

General Education Requirements in Religion

It is a University requirement that each student complete 2 hours credit in religion each semester he is in residence, up to 16 hours.

Freshman and sophomore students must obtain a total of eight hours of credit in the following areas:

Scripture 121, 122
Theology 131, 132
Theology 133, 134
Church Administration 161, 162, 163
Bible 211, 212
Church History 241, 242

Each of these courses carries two credit hours per semester with the exception of Church Administration 161, which carries four. It is recommended that a student take both courses of the sequences which are elected.

Students may complete their religion requirement either by electing all of their courses from the offerings of the College of Religious Instruction, or by following a program of cross-referencing a limited number of certain courses offered by other departments. A list of these courses and the requirements for cross-referencing may be found in this catalog under "General Education Requirements." All transfer students ranking as juniors and all returned missionaries are not only permitted but are expected to elect upper division courses in religion. In the case of transfer students, at least three-fourths of their religion credit must come from courses offered by the College of Religious Instruction.

Graduate Studies in Religion

The College of Religious Instruction offers training leading to the Master of Arts, Master of Science, Master of Religious Education, and Doctor of Philosophy degrees. A student must have adequate preparation on the undergraduate level before beginning work leading to one of these degrees. The admissions committee of the graduate faculty of religion will determine if the student is properly prepared.

Each graduate student must fill all the general regulations and requirements for advanced degrees as outlined by the Graduate School. **The responsibility of knowing and fulfilling these regulations and requirements rests with the student.**

The College of Religious Instruction offers courses for graduate work in Bible and Modern Scripture, Biblical Languages, History and Philosophy of Religion, and Religious Education. A student working toward the master's degree may elect a major in any one of these fields. The Doctor of Philosophy degree, however, is offered at present only in Bible and Modern Scripture and in History and Philosophy of Religion. A candidate for a doctorate must elect either one or two minor fields, in consultation with his advisory committee.

A statement of detailed requirements and procedures of the Graduate Program in Religion may be obtained upon request to the Dean of the College of Religious Instruction.

Master's Degree

Before a student is admitted on a degree-seeking basis, the admissions committee of the graduate faculty of religion will carefully study and evaluate his preparation and fitness for a graduate program. After acceptance, the student must select his advisory committee, in consultation with the admissions committee, and must acquire at least 15 semester hours of formal course or seminar work in his major field and 10 semester hours of formal course or seminar work in his minor field; write an acceptable thesis embodying the results of research under faculty supervision; and successfully pass an oral examination.

Doctor of Philosophy Degree

The student must achieve a thorough mastery of his major, minor, and related fields, a program which will require a minimum of 90 semester hours credit. Part of this requirement may be fulfilled in the completion of the "core" courses listed below.

All doctoral candidates must have an adequate knowledge of at least two foreign languages which will assist them in graduate studies, one of which must be German or French. One foreign language is required before admission to the doctoral program. Upon completion of the "core" requirements with distinction (B grade or better), normally two years, a student must pass a series of written qualifying examinations and an oral examination on the subject-matters represented in the "core" courses. The student will not be awarded the Ph.D. degree until at least two semesters following the successful completion of these examinations. Should the student fail the examinations, the question of whether or when he may repeat them will be determined by his advisory committee in consultation with the admissions committee. The qualifying examinations may not be attempted more than twice. In addition to the "core" requirements the student will be expected to complete an additional 30 hours of specialization in his major and minor fields.

When a student has successfully completed his language requirements, his written and oral qualifying examinations, and the presentation of his dissertation topic, he will be certified by the Dean of the College as an official candidate for the doctor's degree. Having selected his topic in consultation with his advisory committee, he must write a satisfactory dissertation embodying the results of original research. Thereafter, the candidate must defend his dissertation before a formally appointed committee.

"Core" Courses. Bible 411, 501, 502, 503, 511, 512; Church History 441, 442, 645, 646; Christian History 451, 452; Modern Scripture 527, 621, 624; Philosophy 480, 580, 581, 583, 584; Religious Education 530, 670; World Religions 555, 556, 657, 658.

Graduate School

General Information

PURPOSE

The Graduate Division of Brigham Young University was established as an administrative unit in 1922, 47 years after the founding of the Brigham Young Academy in 1875. The objective of graduate study was then stated in these terms: "The essential aim . . . is to develop the power to do independent work and to encourage the spirit of research. Each candidate is expected to possess a broad general knowledge of his major subject with less detail in the case of his minor subjects."

Educational institutions such as Brigham Young University reflect the aspirations and problems of the American people. They carry the ideals, dreams, and hopes of democracy from generation to generation. Their ranks must be filled with men and women trained in the skills, the arts, and the sciences and dedicated to a higher spiritual understanding through which all men can work for the common good.

FACULTY

The faculty of the Graduate School consists of those who hold the rank of professor or associate professor, assistant professor with a doctoral degree, and others approved by the Graduate Council. It is the responsibility of the graduate faculty to formulate and recommend requirements for all graduate degrees and to recommend regulations and facilities to promote the scholarly activities and research interests of graduate students.

GRADUATE COUNCIL

The chief administrative body of the graduate faculty is the Graduate Council, which consists of (1) the academic vice-president of the University, the dean of the Graduate School, and the director of research, ex officio; (2) four members of the graduate faculty elected at large for terms of three years; (3) nine members of the graduate faculty, one elected from each of the nine colleges in which there are departments offering graduate work. The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for graduate instruction and supervision.

ADMINISTRATION OF THE GRADUATE PROGRAM

Subject to review by the President, the administration of the graduate programs is vested in the graduate dean and the Graduate Council, which in turn delegates the operation of the specific program in any given area to the department involved.

SCHOLARSHIPS, ASSISTANTSHIPS AND FELLOWSHIPS

Fellowships and Scholarships. The University has established the following fellowships and scholarships for graduate students:

27 fellowships which provide for free tuition and remission of fees plus \$1,000.

30 scholarships which provide for free tuition and remission of fees plus \$300 to \$750.

These scholarships and fellowships are awarded on the basis of high academic achievement and are available to students in all areas of graduate study. Recipients must possess a baccalaureate degree at the beginning of the period for which the scholarship or fellowship is granted and be a candidate for a

higher degree. Applications for the academic year beginning in September should be filed by the preceding March 1. Application forms may be obtained from the office of the Committee on Graduate Scholarships and Fellowships.

Teaching and Laboratory Assistantships. Many departments employ graduate students as teaching or laboratory assistants. Assistantships are awarded on the basis of scholastic accomplishment and competence for service. Remuneration is based on the time which is devoted to teaching duties. The stipends vary from about \$750 to about \$1,800 per year, not including tuition and fees. Application forms and detailed information may be obtained by writing to the chairman of the department in which the applicant wishes to become an assistant.

Research Assistantships and Fellowships. A substantial number of research assistantships and fellowships are available at Brigham Young University. Recipients work part time under the supervision of a faculty member on research projects which are supported by University, government, or private sources. The awards vary from about \$1,200 to about \$2,500 per school year, depending upon the type of research and the amount of time devoted to it. Students interested in appointments to research assistantships or fellowships should direct inquiries to the chairman of the major department.

SUMMER SESSIONS

Graduate students who do a part of their work at the University during the summer will find a wide range of graduate courses suited to their purposes. A full semester of work is offered in the summer school, which is divided into two terms so that students may attend only part of the summer if they desire. Graduate students may register for a maximum of six credit hours per term.

LIBRARY FACILITIES

In relation to present size, the Brigham Young University has one of the ten fastest growing university libraries in the United States. With the growth in the number of volumes an effort is being made to acquire those library tools necessary to a graduate research program. A well trained staff is available to assist scholars in the use of the book collection, and to interpret the specialized bibliographies, catalogs, guides, and indexes.

The Heber J. Grant Library contains the general book collection including over 300,000 bound volumes, several thousand pamphlets, and an extensive collection of titles on microfilm and microcards. Over 3,000 periodicals are received regularly.

Special Libraries. The library for Physical Sciences and Engineering is on the main floor of the Carl F. Eyring Science Center. The Life Sciences Library—including Biological and Agricultural Sciences, Nursing, and Home Economics—is in the west basement of the Family Living Center. The Phonograph Record Library is in Room 3263 of the Family Living Center.

The facilities of the Genealogical and Historical Library in Salt Lake City, which contains over 500,000 titles, are also available by special arrangement, as are the collections of Utah and Mormon materials in the L.D.S. Church Library in the same city.

ADMISSION TO THE GRADUATE SCHOOL

At Brigham Young University, all students (except those seeking a second bachelor's degree) who have the bachelor's degree from an accredited university register with the Graduate School.

REQUIREMENTS FOR ADMISSION

Degree-Seeking Students. A student who intends to work for an advanced degree must have achieved at least a "B" (3.0) average in the last two years of college work. The department may require additional evidence concerning the applicant's ability to pursue graduate work in his major field—such as the capacity for re-

search or creativity, facility in written and oral expression, and appropriate professional objectives—and may require qualifying examinations or other criteria as a basis for its decision. Remedial work or other requirements may then be prescribed.

A student whose native language is not English is cautioned that adequate command of the English language is indispensable to successful graduate work. He must include with his application for admission a statement from a responsible official that the applicant knows how to read, write, speak, and understand the English language sufficiently well to be able to pursue a satisfactory program of study in the Graduate School. He should anticipate admission on a provisional basis until he proves his ability to do graduate work

Non-Degree-Seeking Students. A student with the bachelor's degree may register on a non-degree-seeking basis for a wide variety of courses for which he is prepared.

PROCEDURE FOR ADMISSION

Degree-Seeking Students. To be admitted to the Graduate School on a degree-seeking basis, a student should file the following forms with the Graduate School Office: (1) An application for admission or readmission to the University (unless he was in attendance the preceding semester), (2) an application for admission to the Graduate School on a degree-seeking basis, (3) two transcripts of all preceding college work (if that work was not done at Brigham Young University), (4) three letters of recommendation—two concerning the student's academic ability and the third concerning his character. (These letters should be sent directly to the Graduate School office by those making the recommendations.) Forms for application and for letters of recommendation are provided by the Graduate School office.

Normally, the application forms should be filed at least two months before the beginning of the semester in which the student plans to begin his work. Students who do not have their applications filed by this date cannot be assured that their applications will be acted upon by the time school opens.

The forms are evaluated by the dean of the Graduate School and by the department in which the student intends to major. Permission to register in the Graduate School is by notice from the University Admissions Office and does not by itself constitute permission to seek a higher degree. Permission to seek a higher degree is by a notice signed by the dean of the Graduate School and the chairman of the department.

Provisional Students. The student who does not have a "B" (3.0) average for the last two years of college work or who matriculated from a university which is not accredited, may be admitted as a provisional student upon the recommendation of his department chairman. Admission from this category to full degree-seeking status is given upon the completion of at least 12 semester hours of "B" credit in upper division or graduate work, the recommendation of the department chairman, and the approval of the graduate dean. Up to 12 semester hours earned while on provisional status may be applied to the degree if approved by the student's advisory committee.

Non-Degree-Seeking Students. To be admitted to the Graduate School on a non-degree-seeking basis, a student should file an application for admission or readmission with the University Admissions Office (unless he was in attendance the preceding semester) and furnish an official transcript of all preceding work at institutions attended (if that work was not done at Brigham Young University). Admission is by means of a registration permit issued by the University Admissions Office. If a student has been in attendance at Brigham Young University the previous semester, registration materials are automatically prepared for him.

GENERAL REQUIREMENTS FOR ALL ADVANCED DEGREES

Advisory Committee. The student's program and his thesis or dissertation are developed under the direction and supervision of an advisory committee. The advisory committee for a student working toward the master's degree consists of two members, and for a student working for the doctorate it consists of at least three members. These members are nominated by the student from the graduate faculty of his major and minor fields in consultation with the chairman of his major department and with the approval of the dean of the Graduate School. The chairman of the advisory committee is a representative of the major field. This committee advises the student in his proposed program, approves his registration, and directs his research and the work on his thesis or dissertation. All work which is to apply toward an advanced degree must be approved by the advisory committee.

As soon as his program is determined (in consultation with the advisory committee) the student should supply each member of the committee with an outline of the program, and he should file a copy which is signed by the committee members with the Graduate School office.

The membership of the advisory committee may be changed with the approval of all members of the newly constituted committee, the chairman of the major department, and the dean of the Graduate School. After such a change the student reviews his entire program with the new committee.

English 99. Students whose ability to write clearly and correctly is not deemed satisfactory by the department involved are required to enroll in English 99, a non-credit course, Problems in Thesis Writing. Students who need this course should take it at the earliest possible time.

Departmental Requirements. Special departmental requirements for advanced degrees are listed in the section of the Graduate School Bulletin which deals with the major department.

Student Load. A normal full load is considered to be from 12 to 16 semester hours or their equivalent in research. Teaching assistants and others employed approximately one-half time should limit their loads to not more than 12 semester hours, and full-time employees to not more than 5 semester hours. Experience has shown that because of the intense character of graduate work and the academic grade-point average required, it is usually advisable for graduate students to limit their programs to something less than the maximum permitted when employed on a full or part-time basis.

Graduate Credit for Seniors. If, during the last semester of the senior year, a candidate for a baccalaureate degree finds it possible to complete all requirements for such a degree with a registration of fewer than twelve hours of undergraduate credit, he may register for graduate credit to the extent that the total registration shall not exceed twelve hours during the semester. A form, provided by the Graduate School office, stating that all undergraduate requirements are being met during the current semester must be signed by the appropriate undergraduate dean and presented to the dean of the Graduate School prior to such registration. This registration does not constitute permission to seek a higher degree.

Application for Graduation. A student, when contemplating graduation, should file an application for graduation with the Graduate School office and pay the graduation fee. This should be done by January 15 for June graduates and by March 15 for August graduates. This should be done before scheduling the final examination.

Graduation. All graduating students must attend graduation exercises unless they have been excused or have made satisfactory explanations of absence.

GENERAL REQUIREMENTS FOR THE MASTER'S DEGREE

Admission on a degree-seeking basis must be completed before the student registers for the last twenty hours of credit intended to apply on the degree.

Amount and Distribution of Credit. The master's degree requires the completion of 30 or more semester hours of credit. At least 15 of the hours must be in the major field and at least 10 in a minor field approved by the major department. At least 10 hours in the major field and 6 hours in the minor field must consist of courses for which there is a systematic body of subject matter identified with a given course number such as ordinarily constitutes a formal course or seminar. Individual reading and special problems may not be included in these latter totals.

Graduate work may be transferred from other institutions upon the approval of the student's advisory committee and the Graduate Council. Forms for petitioning for such transfers are available in the Graduate School Office. Credit transferred must represent work which is a fair and reasonable equivalent of corresponding work in this University. All transferred credit must be of grade "B" or better.

A limited amount of upper division undergraduate work may be applied toward the degree only if starred and initialed on the program outline by the student's adviser at the beginning of the student's graduate work. At least 20 hours of graduate work must be in the 500 series or above and taken on the Brigham Young University campus in Provo.

At least 20 hours must be taken after the advisory committee has been formed, and this must be approved by the advisory committee at registration. All courses must be approved by the advisory committee in order to apply on the degree.

No correspondence credit is applicable toward a master's degree.

Scholastic Standards. The student who fails to maintain at least 2.7 grade-point average each semester will be placed on probation and must earn a "B" (3.0) average in graduate level work the next semester or he ceases to be on a degree-seeking basis. The average grade of all graduate work attempted must be at least "B". At least three-fourths of all work applying on the degree must be of grade "B" or better; none of the remainder may be of a grade lower than "C".

Master's Thesis. At Brigham Young University, a thesis is required for the Master of Arts or Master of Science degree unless a piece of creative work is substituted in the major field. Such fields are music theory, theatre and dramatic art, painting and sculpture, design, and American and English literature. A field project is substituted for the thesis in the Master of Education program.

The prospective candidate for the master's degree enrolls for a thesis (course 699) in his major department. Before beginning his research or creative work, the student must obtain approval of the thesis problem from his advisory committee, and he must file a title card and a prospectus, both signed by the members of the advisory committee, with the Graduate School office. He is required to complete at least one semester of study after this is done. Up to four hours of credit may be recorded when the thesis is completed and accepted.

Detailed directions for the form of the thesis should be obtained from the Graduate School office.

Final Oral Examination. The passing of a final oral examination not less than fifteen days prior to graduation is required. It is the duty of the student to schedule the final examination after obtaining from the chairman of the major department the names of the examining committee. Forms are available for this purpose.

The examination is conducted by a committee of five voting members, to be made up of the members of the advisory committee and others appointed by the chairman of the major department. The chairman of the advisory committee is in charge of the examination. Four affirmative votes are needed to pass. Other members of the graduate faculty may attend the examination and enter the discussion, but they may not vote.

The final oral examination consists of a defense of his thesis by the student and a searching examination into the student's preparation and competence in his major and minor fields.

Time Limit. Graduate credits are applicable towards the master's degree only within a six-year period from the time they are received. Students are advised to complete their programs without notable interruption.

MASTER'S DEGREES OFFERED

Master of Science Degree. The Master of Science degree is awarded upon completion of the requirements listed above.

Master of Arts Degree. The Master of Arts degree is awarded upon completion of the requirements listed above, plus completion of the foreign language requirement for a Bachelor of Arts degree (18 hours of a foreign language).

Master of Education Degree. The Master of Education degree is awarded upon completion of the requirements for the Master of Science degree, with the following exceptions: (1) a satisfactory field project (course 698) may be substituted for the thesis, and (2) a total of 30 hours credit shall be presented in addition to the field project (4 hours).

The field project is a study of a practical problem in the field of the candidate's interest as a teacher. The problem is selected and developed by the student, subject to the approval of his advisory committee. The finished report on the project should conform to the requirements for a thesis in matters of style, format, and manner of filing. It is recommended that a candidate complete not less than one year as a teacher before beginning the field project.

Master of Religious Education Degree. The Master of Religious Education degree is awarded upon completion of the requirements listed above and the special requirements listed under the Department of Religious Education.

GENERAL REQUIREMENTS FOR THE DOCTOR'S DEGREE

The doctor's degree is awarded for distinguished attainment in a recognized field of learning, not merely for the completion of courses of study. The University offers the Doctor of Philosophy degree in the fields of chemistry, geology, history, human development and family relationships, music, physics, clinical psychology, general psychology, history and philosophy of religion, Bible and modern scripture, and sociology. The Doctor of Education degree is offered in educational administration.

Academic Requirements. Admission on a degree-seeking basis must be completed prior to the student's registration for the last three semesters of full-time study intended to apply on the degree.

The equivalent of a minimum of three years of full-time study beyond the bachelor's degree is required, with work towards the master's degree applicable in the doctoral program. Full-time study is defined as twelve to sixteen hours in course work or the equivalent in research per semester. The advisory committee has authority to decide what work will be accepted to meet these requirements, and may accept or require up to two years of full-time study elsewhere. Two years, including the last, must usually be at Brigham Young University.

The student must select a major field of study and at least one minor field approved by the department chairman and the dean of the Graduate School. Specific requirements in these fields are described by the departments.

Comprehensive Examination. The student must pass a comprehensive examination on his doctoral fields under the direction of his advisory committee. This examination will normally be given at the end of the second year of graduate study.

Language Requirement. Before completing his comprehensive examinations, the student must present satisfactory evidence of proficiency in two foreign languages, one of which must be French or German. The selection of both required languages will be made in consultation with the student's advisory committee. In exceptional cases, the student may petition the Graduate Council to substitute another language for French or German.

The language examination is administered by the Language Department in agreement with the department in which the student is majoring. If the student is not prepared to pass examinations in both languages at entrance, on his application for admission he must satisfy the dean that he is taking the necessary steps to do so promptly.

Admission to Candidacy. Satisfactory completion of the comprehensive examinations and the language requirement is necessary for admission to candidacy for the doctor's degree. The student has the responsibility of filing with the dean of the Graduate School a statement from his advisory committee, signed by the chairman of his major department, that all conditions for admission to candidacy have been met and that his dissertation subject has been approved.

Notice by the dean of the Graduate School then admits the student to candidacy for the degree. This will normally be done after the completion of two years of graduate work. At least two semesters of full-time study must be completed after admission to candidacy and before graduation.

Dissertation. The candidate is required to present an acceptable dissertation based upon his own research. Four typewritten copies must be filed in the office of the Graduate School at least fifteen days prior to the final examination. At the same time, six copies of an approved abstract of not more than 600 words must be submitted. The student is also required either to furnish the University with fifteen reprints of his dissertation or to arrange for its microfilming.

Final Examination. Not later than fifteen days before graduation, the student must pass a final examination given by a committee of not fewer than five members. The committee consists of the advisory committee plus such other members as the dean of the Graduate School shall designate.

Time Limit. All requirements for the doctor's degree must be completed within nine years of the date on which the student applies for admission to degree-seeking status for that degree. In order for credit which exceeds this time limit to apply on the degree, such credit must be validated by special examination.

DOCTOR'S DEGREES OFFERED

Doctor of Philosophy Degree. The Doctor of Philosophy degree is awarded after the completion of the requirements listed above.

Doctor of Education Degree. The Doctor of Education degree is awarded upon completion of the requirements listed above with the following special requirements:

ADMISSION REQUIREMENTS

For admission to the program, the applicant must possess certification as a teacher, must have completed two years of practical experience in education, and must possess demonstrable acquaintance with the field of education. His competence will be ascertained by a qualifying examination covering work equivalent to twenty hours of credit. There is no special requirement as to how the student should obtain this background. The examination will be given soon after the student is admitted on a degree-seeking basis.

ACADEMIC REQUIREMENTS

The student is required to complete the equivalent of at least three years of full-time study, of which one must consist of two consecutive semesters on the campus of the University. (He must take one two-hour seminar during each of these semesters.) The student selects one major field and three related supporting fields. Normally, a foreign language is not required, but proficiency in statistics must be demonstrated to the satisfaction of the advisory committee.

FIELD PROJECT AND REPORT

A field project for the improvement of a program of administration or instruction is carried out under the direction of the student's advisory committee after he has been admitted to candidacy. The report of the field study must meet the same standards of format as the Doctor of Philosophy dissertation, and must be submitted under the same schedule and requirements regarding publication.

List of Courses

General

Semester System. Commencing with the autumn term, 1960, courses of study at Brigham Young University will be offered on a semester basis rather than on a quarter basis as in the past. This General Catalog of Courses contains information and course listings based upon the semester system.

It is felt that the semester system will benefit both present and prospective students by reducing administrative procedures and by increasing opportunity for effective learning.

Course Numbering System.

Course Number	Type of Course
1 to 99	Preparatory and remedial (non-credit)
100 to 299	Lower Division
300 to 499	Upper Division
500 to 599	Advanced undergraduate or graduate
600 to 799	Graduate

Credit Hour Designation. The three-number code for credit hours has the following significance:

First number:	Semester Hours of Credit
Second number:	Class hours of lecture, recitation, or seminar meeting per week or Minimum hours of individual study required per week
Third number:	Laboratory hours required per week or Hours of field study or individual research per week

Cross Referencing of Courses. Each course is listed completely only once in the catalog. If the course may count in another department, it appears in a special grouping at the end of the course listing for that department.

Inter-departmental Courses. In Family Living, Humanities, and Physical Science inter-departmental courses are taught. In the course listing which follows, these courses appear under the appropriate headings of Family Living, Humanities, and Physical Science rather than in a specific department.

Graduate Courses. For regulations governing study beyond the bachelor's degree, see the Graduate School section of this catalog and the Graduate Catalog. Advanced undergraduate or graduate courses (500 series) may be used for graduate credit with certain limitations.

Reservation of Right to Change Courses. At the time of printing of this catalog, the University intends to give the courses listed herein, but reserves the right to eliminate or discontinue any of them or to add new courses.

Courses

Accounting
 Agricultural Economics
 Agronomy
 Air Science
 Animal Husbandry
 Archaeology
 Art
 Bacteriology
 Bible and Modern Scripture
 Biblical Languages
 Botany
 Business Education and Office Management
 Business Management
 Chemical Engineering Science
 Chemistry
 Civil Engineering Science
 Clothing and Textiles
 Economics
 Educational Administration
 Educational Philosophy and Programs
 Educational Research and Services
 Electrical Engineering Science
 English
 Food and Nutrition
 Forum Assemblies
 Geography
 Geology and Geological Engineering Science
 Health and Safety Education
 History
 History and Philosophy of Religion
 Homemaking Education
 Horticulture and Horticultural Specialties
 Housing and Home Management
 Human Development and Family Relationships
 Humanities
 Industrial Education
 Instruction
 Journalism
 Languages
 L.D.S. Theology, Church Organization and Administration
 Library Science
 Mathematics
 Mechanical Engineering Science
 Music
 Nursing
 Physical Education
 Physical Science
 Physics
 Political Science
 Psychology
 Recreation
 Religious Education
 Sociology and Anthropology
 Speech and Dramatic Arts
 Statistics
 Technical and Semi-Professional Institute
 Youth Leadership
 Zoology and Entomology

Professors: Andersen, R. J. Smith (chairman).

Associate Professor: Johnson.

Instructors: Skousen*, J. M. Smith, Western, White.

Accounting



The Accounting Department trains students in the use of objective measuring methods in the financial dealings of business, and attempts to develop men of high professional status in the interpretation, analysis, use, and projection of accounting data. The accountant must be aware of the dynamic changes in general business methods and goals and must develop practical methods of measuring and reporting these changes accurately and of integrating them into acceptable accounting terminology and procedures

The training given leads to three principal areas of service: (1) the certified public accountant who serves industry and the public as an independent professional man, skilled in accounting and auditing techniques; (2) skilled personnel in electronic data processing who must develop superior methods in the use of new, reliable, and communicable measures of performance which will aid in guiding the business and the economy in periods of rapid change; and (3) the controller or industrial accountant who can serve effectively in the management team, being conversant with and sensitive to the progressive innovations taking place in business. In this area the Accounting Department provides an opportunity for students to acquire the business management perspective which will qualify them for administrative positions. In addition to these three principal areas, the accountant may engage in government service or enter the teaching profession.

Majors in the Accounting Department are required to take the courses listed below:

Business Management 340, 342, 347, 348	12 hours
Economics 111, 112, 345	8 hours
Statistics 131 (or equivalent), 221, 231	7-8 hours
Accounting 201 or 211, 212, 255, 301, 302, and a minimum of six additional hours selected from course offerings of the Accounting Department with the approval of the student's adviser. (Accounting 593, 596, and 699 may not be selected for this purpose.)	28 hours

Suggested Program for Accounting Majors

The courses listed below include both the University and the departmental requirements.

	Maximum Hours	Minimum Hours
Freshman Year:		
**Religion	4	4

*Physical Education and Health	3	3
*English (111, 112; or 115, 116)	6	4
*Physical Science	6	3
*Biological Science	6	6
*American Heritage (History 170 or 180)	3	3
*Social Science (Psychology 111 suggested)	3	2
*Humanities and Aesthetics	3	3
Elective—preferably to be used filling groups	—	6
	34	34

Sophomore Year:	Maximum Hours	Minimum Hours
**Religion	4	4
*Physical Education	1	1
*Humanities and Aesthetics	5	5
*Physical Science	—	3
*Economics 111 and 112 (Principles)	5	5
*Accounting 201 or 211 (Elementary)	5	5
*Statistics 131 (or equivalent)	3	2
*Statistics 221	2	2
*Accounting 212 (Procedures and Cost)	5	5
Elective	4	2
	34	34

Junior Year:		
**Religion	4	4
*Statistics 231 (Business Math and Statistics)	3	3
*Business Management 340 (Industrial Organization)	3	3
*Business Management 342 (Commercial Law)	3	3
*Business Management 347 (Marketing)	3	3
*Business Management 348 (Financial Administration) ..	3	3
*Economics 345 (Intermediate Theory)	3	3
*Accounting 255 (Basic Concepts of Data Processing)	2	2
*Accounting 301 and 302 (Intermediate)	10	10
	34	34

The above courses include University, college, and departmental requirements except for six additional hours of accounting, the 40 hours of upper division credit required (which could be completed by taking upper division courses in religion and in the optional hours provided), and the 124 total hour requirement.

With the exception noted, a student who has completed the above program has covered a basic course in accounting. At this point he should determine the extent to which he desires additional accounting training. A number of alternatives are available. Listed below are four plans: one for those who desire to complete their training in four years, and three alternative plans for those intending to complete a five-year professional course.

Four-year general accounting course, senior year:	Hours
**Religion	0-4
Accounting 420 (Taxes)	3
Accounting 442 (Law)	3
Accounting 565 (Auditing)	5
B.E.O.M. 320 (Business Writing and Reporting)	3

Business Management 480 or 481 (Executive Lectures)	1
Elective hours	15-19
	<hr/>
	34

Five-year programs:**No. 1. Controllership and Industrial Accounting**

Senior year:	
**Religion	0-4
Accounting 420 (Taxes)	3
Accounting 442 (Law)	3
Accounting 565 (Auditing)	5
B.E.O.M. 320 (Business Writing and Reporting)	3
Elective—suggested courses are: Business Management 420, 450, 451, 480, 481, 521, 574; Economics 453, 461; Accounting 596; Statistics 332	14-18
	<hr/>
	32

Fifth year:

Accounting 521 (Advanced Taxes)	2
Accounting 555 (Advanced Data Processing)	3
Accounting 512 (Advanced Cost)	2
Accounting 515 (Controllership)	3
Business Management 588 and 589 (Problems in Business Management)	6
Business Management 577 (Modern Corporate Problems)	2
Economics 576 (Government and Business)	3
Elective	9
	<hr/>
	30

No. 2. Electronic Data Processing**Senior year:**

**Religion	0-4
Accounting 420 (Taxes)	3
Accounting 442 (Law)	3
Accounting 565 (Auditing)	5
Statistics 332 (Advanced Business Math)	2
B.E.O.M. 320 (Business Writing and Reporting)	3
Elective	12-16
	<hr/>
	32

Fifth year:

Accounting 555 (Advanced Data Processing)	3
Accounting 556 (Computer Programming)	3
Accounting 557 (Advanced Computer Programming)	2
Statistics 431, 432, 533, 534	9
Elective	13
	<hr/>
	30

No. 3. Professional Public Accounting**Senior year:**

**Religion	0-4
Accounting 442 (Law)	3
Accounting 420 (Taxes)	3
Accounting 565 (Auditing)	5
Accounting 521 (Advanced Taxes)	2
Accounting 512 (Advanced Cost)	2
Elective—suggested courses are Business Management 451, 552; Economics 453; B.E.O.M. 320; Accounting 596	13-17
	<hr/> 32

Fifth year:

Accounting 575 (Theory)	3
Accounting 501, 502 (Advanced)	6
Accounting 586, 587 (C.P.A. Coaching)	8
Statistics 534 (Sampling)	2
Accounting 555 (Advanced Data Processing)	3
Elective—suggested courses are Business Management 571, 577; Economics 575, 576	8
	<hr/> 30

The student in each of the five-year programs may desire to obtain a master's degree in accounting. In this event, a thesis would be required, for which the student could obtain four additional hours of accounting credit. In addition to the thesis, the student would have to complete ten hours in a minor field. Some time which may be used for this purpose is provided in each program.

*Courses required for graduation by the University, college, or department.

**Required by the University for graduation. The student may reduce this requirement by taking classes which count both as religion courses and as humanities and aesthetics or by taking classes which count both as religion courses and social sciences.

Lower Division Courses

- 201 (101, 102). Elementary Accounting.** (5:5:0) F.S.Su. Home Study also. Staff
An introductory course for students who have had neither training nor experience in accounting (or who have not had Mathematics 101 or its equivalent).
- 202 (102). Bookkeeping Procedures.** (2:2:0) S.Su. Staff
Continuation of Accounting 201 for B.E.O.M. majors and others interested. (Not to be taken by majors in Accounting.)
- 211 (201, 202). Elementary Accounting.** (5:5:0) F.S.Su. Prerequisite: high school bookkeeping or Mathematics 101 or its equivalent. Staff
An introductory course designed for the student whose major field demands a more rigorous course than Accounting 201.
- 212 (202, 285). Accounting Applications—Procedures and Cost.** (5:5:0) S.Su. Prerequisite: Accounting 201 or 211. Staff
A continuation of elementary accounting, with emphasis on accounting procedures and cost accounting.

- 255 (316). **Basic Concepts of Data Processing.** (2:2:1) F.S.Su. Prerequisite: Accounting 201 or 211. Staff
Introduction to data processing systems with emphasis on mechanical and punched card applications.
- 285 (285). **Cost Accounting.** (3:3:0) F. Prerequisite: elementary accounting. Staff
(To be taught 1960-61 only. See Accounting 212.)
An introduction to the principles and practices of cost accounting.

Upper Division Courses

- 301, 302 (350, 351, 352). **Intermediate Accounting.** (5:5:0 ea.) F.S.Su. Home Study also. Prerequisites: Accounting 201 or 211, and 212. Staff
Intermediate course in accounting for general business students and for majors who need a broad foundation for specialized studies which they will take later.
- 356 (317). **Punched Card Accounting.** (2:2:1) S. Prerequisite: Accounting 255. Staff
Continuation of Accounting 255, stressing advanced accounting machine operations and systems design.
- 420 (450). **Federal and State Taxes.** (3:3:0) F.S.Su. Home Study also. Prerequisites: Accounting 201 or 211 and preferably Accounting 301 or Business Management 203. Staff
A study of federal and state tax legislation and regulations with emphasis on individual income tax.
- 442 (459). **Advanced Business Law.** (3:3:0) S. Prerequisite: Business Management 342. Staff
Business law for accountants and businessmen, with emphasis on laws covered in professional accounting examinations.

Advanced Undergraduate or Graduate Courses

- 501 (440, 570). **Advanced Accounting.** (3:3:0) F. and alternate summers. Prerequisite: Accounting 302. Staff
Includes joint ventures, consignments, installments, receiverships, estates and trusts, statements of affairs, and municipal and government accounts.
- 502 (570). **Advanced Accounting.** (3:3:0) S. and alternate summers. Prerequisite: Accounting 302. Staff
Home office and branch accounts and parent and subsidiary accounting.
- 512 (584). **Advanced Cost Accounting.** (2:2:0) F. Prerequisite: Accounting 212. Staff
Budgeting, standard costs, and cost analysis.
- 515 (572). **Controllership.** (3:3:0) S. Prerequisites: Accounting 302 and 512. Staff
Organization of controller's office, control techniques, interpretation of financial data, and policy formulation.
- 521 (582). **Advanced Tax Problems.** (2:2:0) S. Prerequisite: Accounting 420. Staff
Advanced study of federal income tax, estate and gift taxes, and special problems in corporate taxation
- 555 (555). **Advanced Data Processing.** (3:3:0) F. Prerequisite: Accounting 225. Staff
Principles governing design and installation of accounting systems and the selection of equipment for optimum performance in data processing cycles.

- 556 (556). **Electronic Computer Programming.** (3:3:1) F.S. Prerequisite: Statistics 231. Recommended prerequisite: Accounting 255. Staff
Basic computer logic, binary notation, operational coding, flow charting, iterative routines, subroutines, library programs, optimum coding, symbolic coding, and data processing application.
- 557 (557). **Advanced Computer Programming.** (2:1:2) S. Prerequisite: Accounting 556. Staff
Emphasis on the solution of practical problems in data processing. Individual work on the University's computer and comparison of various computers in current use.
- 565 (565, 571). **Auditing and Professional Ethics.** (5:5:0) F.Su. Prerequisite: Accounting 302. Staff
Principles and methods of public accounting, professional responsibility and conduct, and verification techniques of accounts and financial statements, including report writing and filings with regulatory bodies.
- 575 (545). **Theory of Accounts and Statements.** (3:3:0) F. Prerequisite: Accounting 201 or 211. Staff
A brief study of the history and development of accounting and financial statements, their meaning and interpretation. Problems in current accounting theory will be considered.
- 586, 587 (586, 587, 588). **C.P.A. Problems.** (4:3:1) F.S. Prerequisites: Accounting 302, 420, and the following which should be taken before or concurrently: Accounting 501, 502, 565. Staff
Preparation for professional examination.
- 593 (593). **Reading and Conference.** (1-3:1-3:0) F.S.Su. Staff
Subject to be arranged with instructor.
- 596 (596). **Accounting Internship.** (1-3:0:Arr.) F.S.Su. Recommended prerequisite: Accounting 565. Staff
Internship must be arranged in advance with department and company.

Graduate Course

- 699 (699). **Thesis for Master's Degree.** (1-4:0:0) F.S.Su. Staff

These courses also count in Accounting:

- Business Education and Office Management 206. **Calculating Machines.** (2:5:0)
- Business Education and Office Management 320. **Business Writing and Reporting.** (3:3:0)
- Business Management 588, 589. **Problems in Business Management.** (3:3:0 ea.)
- Statistics 534. **Sampling Techniques.** (2:2:0)

Professor: Nelson.
Associate Corbridge (chairman, 171 B),
Professors: Gardner, Nielson.

Agricultural Economics



The Department of Agricultural Economics emphasizes the business and economic aspects of agriculture. A wide range of electives permits a student in this department to choose course work from many different areas. The student should work with advisers from the department to adapt his study program to his particular interests and needs.

Twenty-four hours, including Agricultural Economics 101, 125 and/or 325, and 310, Economics 112, and Statistics 221 are required for a major in Agricultural Economics.

Students are encouraged to concentrate on one of the following three options: (1) Basic Agriculture, for those returning to the farm and primarily interested in production courses; (2) Pre-professional, for those planning graduate study; or (3) Agri-business, for those principally interested in the business aspects of farming or in seeking employment in related business areas.

Basic Agriculture Option. Students electing this option are advised to consider:

Agricultural Economics 101, 125 and/or 325, 310 and/or 410, 320, 350, 360, 425, 525, 580.
 Agronomy 141, 251 and/or 302, 305, 451, 455, 457.
 Animal Husbandry 170, 207 and/or 161, 215, 335, 507.
 Horticulture 101 and/or 103, 310.
 Industrial Arts—classes as needed.
 Economics 111 and/or 112.
 Statistics 221.

Pre-professional Option. Students anticipating graduate training are advised to obtain a good background in mathematics, statistics, and economic theory. Choices are recommended from among the following:

Agricultural Economics 101 and either or both 125 or Accounting 201 and Agricultural Economics 325; 310 and one or more of 320, 410, 425, 525, 580.
 Agronomy 141 and/or 251.
 Animal Husbandry 207 and/or 215.
 Horticulture 101 and/or 103, 310.
 Economics 111 and/or 112, 345, 586, 587.
 Mathematics 111, 112 and/or 213.
 Statistics 221 and/or 431 and/or 531.

Agri-business Option. Business training is emphasized in this option. Recommended courses include:

Agricultural Economics 101, 125 and/or 325, 310 and/or 410, and one or more of 320, 350, 360, 425, 525, 580.
 Agronomy 141 and/or 251.
 Animal Husbandry 207 and/or 215.
 Horticulture 101 and/or 103, 310.
 Accounting 201.
 Business Management 315, 348, 420, 451, 457, 555, 557, 567, 569, 579, 588, 589.
 Economics 111 and/or 112.
 Geography 223.
 Statistics 221, 231, and/or 431.
 Business Education and Office Management 220 and/or 320.

Lower Division Courses

- 101 (101). Economics and Agriculture.** (3:3:0) F.S. Home Study also. (G-SS) Corbridge, Gardner, Nelson
 Basic general education course in economics covering the same theoretical framework as Economics 112, but with special reference to the agricultural sector of the economy.
- 125 (123, 125). Farm Records and Management.** (3:3:0) F.S. Corbridge
 Basic principles of production economics applied to organizing and managing a farm, and the records useful for income tax and farm management purposes.

Upper Division Courses

- 310 (310). Agricultural Marketing.** (3:3:0) F.Su. Nelson
 Economic principles, marketing agencies, methods of selling, channels of distribution, market information, current research, and regulations affecting major farm products.
- 320 (320). Agricultural Business Organizations.** (2:2:0) F. Corbridge
 Land and range requirements. Economics of land use, evaluation and conservation of basic resources. Social and economic problems related to credit, taxation, land ownership, range management, reclamation projects, and irrigation developments.
- 325 (325). Farm Management.** (3:3:0) F. Prerequisites: Agricultural Economics 101 and 125, or special permission of the instructor. Corbridge
 Basic economic principles of optimum resource combination and their applications to particular farm management decisions.
- 350 (350). Land and Range Economics.** (3:3:0) S. Nelson
 A study of the organizational structure, problems, and relative importance of the types of business units with which agriculture is concerned.
- 360 (360). Law and the Farmer.** (2:2:0) S. Home Study also. Staff
 A general study of the law of contracts, real and personal property, taxes, water, and estate planning, with specific applications to the problems of agriculture.
- 410 (410). Marketing Livestock Products.** (2:2:0) S. Nelson
 A study of existing marketing channels and methods of handling livestock products including poultry, dairy, and meat animals and their products.
- 425 (425). Farm Appraisal and Finance.** (2:2:0) S. Corbridge
 Training in farm appraisal for purposes of purchase, finance, and taxing. Also an evaluation of the principal sources of farm finance.

490 (490). Seminar. (1:1:0) F.

Staff

Advanced Undergraduate or Graduate Courses

525 (525). Production Economics. (2:2:0) S. Prerequisite: Economics 112.

Gardner

A study of principles concerning the optimum combination of productive resources within the farm firm and between firms.

580 (580). Agricultural Policy. (2:2:0) S.

Gardner

The theoretical and institutional setting of the agricultural industry, the objectives of farm policy, and the means of achieving these objectives. Includes a study of existing and proposed farm legislation.

590 (590). Seminar. (1:1:0) S.

Staff

595 (595). Individual Readings. (1-3:Arr.:Arr.) F.S.

Staff

597 (597). Individual Research. (1-3:Arr.:Arr.)

Staff

These courses also count toward Agricultural Economics credit:

Economics 111, 112, 345, and 586.

Economic Geography 223.

Mathematics 112, 213.

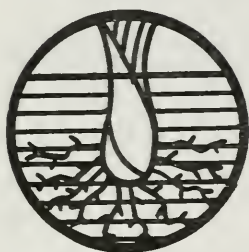
Statistics 221, 431, and 531.

Agronomy

Professor: Farnsworth.

Associate Professors: Allred (chairman, 172 B), Ash-ton, Hallam.

Special Instructor: Woodward.



The curriculum in the Department of Agronomy has as its objectives the training of students in the fundamental principles of soils and field crop production and their interrelationships. Graduates are trained to fill positions in the following areas: (1) practical scientific farming, (2) government civil service, (3) commercial agricultural positions, (4) graduate study toward the M.S. or Ph.D. degree, and (5) agricultural education.

A minimum of twenty hours is required for a major in this department. A related field, with a minimum of fourteen credit hours, should also be selected as a minor by the student, with the approval of the department chairman.

All majors in Agronomy are required to take one year of chemistry.

A minimum of one course from each of the following areas is also recommended as needs and interest dictate.

Agricultural Economics 125, 310, 325, 360.

Animal Husbandry 161, 170, 207, 215, 427.

Horticulture 101, 103, 310, 402.

Following is a recommended listing of courses with some alternatives for the freshman and sophomore years.

Freshman Year		Sophomore Year		F	S
	F S	Agronomy 141, 251		3	4
English 111, 112	3 3	Animal Husbandry 207		3	
Chemistry 111, 112	4 3	Chemistry 113		3	
Mathematics 111, 112	5 5	Bacteriology 121			3
Botany 101		Social Science		5	
Religion	2 2	Geology 102, 111			4
Health 130	2	Humanities		3	3
Phys. Ed.	1 1	History 170 or 180			3
		Religion		2	2
	<hr/> 17 17			<hr/> 19	<hr/> 19

Options:

1. In planning a program for returning to the farm, the student should take as many courses as possible in the following areas depending upon his needs,

desires, and the requirements of his minor field:

Animal Husbandry 335, 365, 370, 427.

Botany 470.

Industrial Education 120, 125, 285, 308, 365.

Agricultural Economics, Agronomy, and Horticulture as listed in this catalog.

2. Should a student desire to enter the field of government civil service as an agronomist, soil conservationist, soil scientist, range conservationist, range manager, or reclamationist, his general courses will be as listed above with electives from the following:

Agricultural Economics, Agronomy, Animal Husbandry, and Horticulture as listed in this catalog.

Botany 110, 440, 450.

Chemistry 220 or 221.

Drawing 102.

Geology 102, 111, 112.

Mathematics 111, 112.

3. For training for commercial positions, a combination of the above courses is suggested. Additional Agricultural Economics and business courses should be taken after consulting with a department adviser.

4. The suggested course of study for agronomy majors who plan to do graduate work for a Ph.D. degree is as follows:

Soils:

Agronomy 141, 251, 311, 302, 303, 305, 308, 314, 440, 496, 503.

Bacteriology 121.

Botany 101, 440, 450, 480.

Chemistry 111, 112, 113, 221, and 352, or 461, 462.

Geology 102, 111.

German 101, 102.

Mathematics 111, 112, 213, 214.

Physics 211, 213.

Field Crops:

Agronomy 141, 251, 303, 305, 308, 451, 453, 455, 459.

Botany 101, 110, 176, 440.

Bacteriology 121.

Chemistry 111, 112, 113, 221 and 351, 352.

Geology 102, 111.

German 101, 102.

Mathematics 111, 112.

Statistics 221.

Lower Division Courses

- 141 (141). General Soils. (3:2:3) F.S. Hallam
An introductory course dealing with the physical, chemical, and micro-biological properties of soils.
- 251 (251, 260). Principles of Field Crop Production. (4:3:2) F.S. Allred
Crop production principles, soil-plant relationships, classification and distribution of farm crops, corn and small grain improvement, tillage and crop rotations.

Upper Division Courses

- 302 (302). Irrigation and Drainage. (3:2:3) S. Prerequisites: Agronomy 141, Mathematics 111. Staff
Proper use of irrigation water; irrigation water supply; water measure-

ments; drainage in relation to the irrigation practices; drainage and alkali; drainage systems.

- 303 (307). Soil Genesis, Classification, and Survey.** (2:2:2) F. Prerequisites: Agronomy 141, Geology 101. Woodward
The influence of geologic forces and climatic environment on soil development; classification of soils based upon soil profile characteristics. Methods of soil survey are emphasized.
- 305 (305). Soil Fertility.** (3:2:3) F. Prerequisites: Agronomy 141, Chemistry 105 or 111. Hallam
A study of the underlying principles of soil fertility, soil alkali, soil chemical analysis or soil testing, commercial fertilizers, farm manures, green manures, crop rotations.
- 308 (307). Soil and Water Conservation.** (2:2:0) S. Woodward
History and status of soil erosion and soil fertility; effect of climatic factors, soil characteristics, vegetation, land management, and farm operations on soil and water conservation and on soil fertility and production maintenance.
- 311 (301). Soil Physics.** (2:2:0) F. Prerequisites: Agronomy 141, Chemistry 111, and Mathematics 101 or 111. Recommended prerequisites: Physics 211, 212, 213; Chemistry 112, 113, and 220 or 221. Staff
Physical composition of soils—sand, silt, clay, and organic matter—and their effects upon the air, water, and temperature relationships in the soil.
- 314 (314, 315). Soil Microbiology.** (3:2:3) F. Prerequisite: Bacteriology 121. Hallam
Designed to acquaint the student with bacteria in relation to soil fertility; the activity and types of organisms in the rhizosphere; the biological processes in the soil.
- 440 (262). Forage Crops.** (3:2:2) F. Recommended prerequisite: Agronomy 251. Allred
Distribution, characteristics, identification, and establishment of all major forages adapted to grasslands of the U.S.
- 451 (451). Principles of Weed Control.** (2:2:1) S. Recommended prerequisites: Agronomy 141, 251 and Horticulture 458. Allred
Cultural, chemical, and biological methods of weed control.
- 453 (261, 453). Advanced Field Crops and Seed Production.** (3:3:0) F. Prerequisites: Agronomy 141, 251. Allred
Problems involved in seed crop production; seed certification of small grains and forages; curing, storing, cleaning, and distribution.
- 455 (455). Pasture Management.** (2:2:0) S. Prerequisites: Agronomy 141, 440. Allred
Analysis of the conditions of pastures in the intermountain region, need for improvement, factors involved in improvement; principles and practices of management required to provide maximum production for dairy, beef, sheep, hogs, and poultry.
- 457 (457). Ecology of Weeds and Crops.** (2:2:0) Su. Allred
Field study of important grasses, legumes, other agronomic crops, and weeds; adaptation to soil, moisture, light, and other environmental conditions; growth characteristics, utilization, and control.
- 459 (459). Plant Breeding.** (2:2:0) S. Prerequisites: Botany 101, Zoology 176. Ashton
Methods of hybridizing and selection in relation to plant improvements.

- 491 (496). Seminar. (1:1:0) F.S.Su. Staff
Current agronomic literature, agricultural problems. Required of all senior students majoring in agronomy.
- 495 (New). Field Projects. (2-3:0:4-6) F.S. Staff
Supervised field research or practical field problems. Required of all agronomy majors.
- 497 (497). Research. (1-2:1-2:0) F.S. Staff
Seniors specializing in agronomy elect research work from one to three hours.
- 498 (498). Agricultural Literature. (1-2:1-2:0) F.S.Su. Staff

Advanced Undergraduate or Graduate Courses

- 503 (503). Soil Chemistry. (2:2:0) S. Prerequisite: Chemistry 221 or consent of instructor. Hallam
A physico-chemical study of soil colloids.
- 506 (506). Soil and Plant Analysis. (3:1:6) S. Prerequisites: Agronomy 305, Chemistry 220 or 221. Hallam
Laboratory chemical analysis of soils and plant materials; use of radioactive materials in soil fertility research; use, care and measurement of radioactive materials.

Graduate Courses

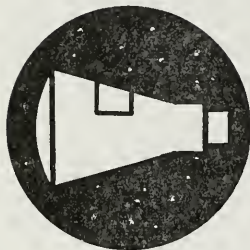
- 605 (605). Chemistry of Soil-Plant Relationships. (3:3:0) F. Hallam
- 607 (601). Soil Physical Conditions. (3:2:3) S. Staff
- 614 (614, 615). Advanced Soil Microbiology. (3:2:3) S. Prerequisites: Agronomy 305, Bacteriology 121, Chemistry 221. Hallam
- 659 (659). Advanced Plant Breeding. (2:2:0) F. Allred
- 694 (694). Seminar. (1:1:0) F.S.Su. Staff
- 697 (697). Research. (Arr.) F.S.Su. Staff
- 698 (698). Agricultural Literature. (Arr.) F.S.Su. Staff
- 699 (699). Thesis for Master's Degree. (Arr.) F.S.Su. Staff

Air Science

Professor: Lt. Colonel Gibson (chairman, 145 HC).

Assistant Professors: Major McCulloch, Captain Alvord, Captain Dye, Captain Reasor.

Instructors: T/Sgt. Boman, S/Sgt. Hall, A/1C Burton.



General Information. Approximately eighty per cent of the officers in the United States Air Force are graduates of the AFROTC program. AFROTC training does not make a specialist of the student, but it does train him to function as a junior executive. During the program he will apply his knowledge and experience to practical situations by staff studies, oral presentations, student instruction, group discussions, and command of men. He will learn sound leadership techniques to prepare him to serve as a commissioned officer in the United States Air Force and as a leader in civic and community affairs.

Eligibility. The beginning student must be a citizen of the United States under age 24. He need meet only the University physical standards and be enrolled as a day student to participate in the basic program during his freshman and sophomore years. To enter the advanced program, the cadet must pass an Air Force physical examination during his sophomore year. He must also pass the written Air Force Officer Qualification Test and be recommended by a board of officers, approved by the professor of Air Science and the University President. He will then execute a contract with the Air Force agreeing to complete the advanced course, attend summer training, and if applicable serve his tour of active duty with the Air Force upon graduation.

Text Books, Uniforms, and Allowance. All items of the Air Force uniform and all text books will be issued free of charge. A cadet entering the advanced program receives an officer's uniform which he retains upon completion. During the last two years of AFROTC, each cadet will receive from the Air Force a monetary allowance of 90c per day or about \$525 in cash for these two years.

Enrollment. AFROTC should be completed at the time of or shortly before graduation. Therefore, a student may normally enroll in AFROTC only during his first semester at B.Y.U. Exceptions are made for veterans, transfer students and certain other students. Students with problems pertaining to enrollment should consult the department chairman for advice or waivers.

The AFROTC Program. The AFROTC program is a four-year course designed to fit into the regular academic schedule of the University. It consists of 24 credit hours of academic work counting toward graduation requirements, one leadership laboratory per week, and attendance at a four-week summer training course. This course is held at a designated Air Force base between the junior and senior years. After completing the program and University requirements for a baccalaureate degree, the student will receive a commission as a lieutenant in the Air Force Reserve.

Minor in Air Science. An academic minor in Air Science has been approved. Students desiring Air Science as a minor must complete AFROTC requirements and qualify for a commission in the United States Air Force. See the department chairman for detailed information.

Leadership Laboratory. A cadet will attend leadership laboratory for a minimum of one hour a week. It is designed to give him experience in the handling of men. He learns leadership techniques and increases his self-confidence by practical experience. He is promoted through the lower cadet grades during his first two years as his leadership ability is demonstrated. During his junior year, the cadet will hold non-commissioned officer grades, and be given responsibility in the leadership training of other cadets. During the latter part of this year or during the senior year he will be promoted to cadet commissioned rank and participate in the planning and supervision of all cadet corps activities under minimum guidance of faculty advisors.

Summer Training. The four-week summer training course is a supplement to the academic program. It develops in the cadet a better understanding of the Air Force mission and its operation. He receives additional practical experience in leadership in realistic situations on an Air Force base, increasing his proficiency as a leader of men. The course emphasizes flying for those physically qualified. Each cadet receives medical care, food, and clothing while attending the course, and is paid \$75.00 in addition to travel pay to and from the base.

Flight Instruction Program. A flight instruction program is conducted at the Provo Airport by an accredited flying school. Senior cadets who qualify for pilot training are eligible to participate. Instruction is given free of charge. Thirty-six and one half hours of flying instruction are given, qualifying the student for a private pilot's license. Ground school instruction in navigation, weather, flight rules, and other subjects are given by USAF flying officers of the Department of Air Science.

Orientation Flights. A series of orientation flights in Air Force aircraft is scheduled each year. Each cadet will have the opportunity of visiting several Air Force bases and aircraft assembly plants. These flights as well as those flights in jet aircraft at the summer training course, are flown by experienced Air Force pilots at no charge to the cadet. On overnight cross-country flights, cadets will pay for their own meals and a minimum housing fee.

Extracurricular Activities. Each AFROTC cadet will be able to extend his academic and laboratory associations into many extracurricular activities. Among these are participation in the Arnold Air Society, Drill Teams, the AFROTC Chorus, the AFROTC Band, rifle teams, and the annual Military Ball for all cadets. Cadet associations and friendships formed during this period continue long after college.

The Draft. Students who are enrolled in the AFROTC Program may be deferred from the draft after they have completed one semester of Air Science.

Veterans. One of the reasons the University sought the AFROTC program is to offer students—including veterans—an opportunity to improve their status in the military reserve. A veteran seeking a commission through AFROTC may have that part of the basic program waived (maximum of both freshmen and sophomore years) which corresponds with the academic credit on his record. He should have at least 4 semesters of academic requirements remaining prior to graduation. Graduation must be prior to his 28th birthday. Active service after graduation is voluntary. Interested veterans should consult the Professor of Air Science to make arrangements for enrollment or appropriate delay to place him in phase with the program. Allowances are paid in addition to GI Bill benefits. The V.A. requires a credit load of 14 hours in addition to AFROTC credits.

L.D.S. Missions. Students called on L.D.S. missions will be released from the AFROTC program. Special arrangements have been made with the Air

Force to accept each back into the program if he meets the conditions in force at the time of return.

Period of Non-Attendance. Students enrolling in AFROTC who are in a five-year program are allowed a year of non-attendance between the basic and advanced courses. During this period, cadets remain deferred from the draft. They must, however, participate in leadership laboratory.

Discipline. AFROTC cadets are civilians and are not subject to the military law. Disciplinary training in the Cadet Corps is formulated and administered by the cadets themselves. Cadets are subject to the rules and regulations of the Department of Air Science and of the University. Violation of rules may mean discharge from the AFROTC program, but will not necessarily result in a student having to leave school. Disciplinary matters are referred to the Dean of Students for action in accordance with the rules of the University.

Course Fee Deposit. A \$14.00 deposit is required of the student at the beginning of each school year. The purpose of this fee is to protect the United States Government and the University from loss of textbooks and articles of uniform. A course fee covering insurance and activity fund is withheld from this deposit. At the end of each school year approximately \$7.00 is returned to the student, providing there has been no loss of uniform or books.

Registration Instructions. Students will be required to participate in the Leadership Laboratory during each semester of enrollment prior to award of the commission. This training constitutes a regular portion of the curriculum whether enrolled directly in courses offered by the Department of Air Science or in acceptable courses within other departments. In order to simplify registration, students will treat this laboratory as a regular class period with the exception that no additional credit is offered beyond that granted for the regular classwork. (Register for courses 110, 111, 220, 221, 330, 331, 440 and 441 during the appropriate semester.)

A new and improved program has been inaugurated this year. During the First Semester for freshmen and the Second Semester for sophomores, an Air Science course is not offered. Instead, these students will enroll in a University course from the approved substitute list. This list is available at the office of the Department of Air Science, 145 HC. Note that these courses will apply to Air Science (AFROTC) as well as the General Education requirements. Student selections for substitution will be approved during registration by the Air Science advisor.

Lower Division Courses

- 101 (110, 111, 112) (Air Science 1). Foundations of Air Power 1. (2:2:0) S. Alvord, Dye

Freshman year: A general survey of the elements and potentials of Air Power, evolution of aerial warfare, air vehicles and principles of flight, propulsion systems, and the military arm of the government.

- 110-111. Leadership Laboratory - Freshmen. (0:0:2) F.S. Staff

A practical learning situation in which the student learns and develops the basic fundamentals of military drill, self-discipline, military courtesy, military organization, and the various skills required at increasing levels of responsibility. The Cadet Corps provides the medium for progression from small unit leadership, to command, instruction, planning, and management of men.

- 201 (220, 221, 222) (Air Science 2). Foundations of Air Power 2. (2:2:0) F. McCulloch

Sophomore year: A survey of the concepts of employment of forces, elements of aerial warfare, including aircraft and missiles, space operations, the impact of changing weapons systems. Included is an examination of professional opportunities in the USAF.

220-221. Leadership Laboratory - Sophomores. (0:0:2) F.S.

Staff

Upper Division Courses

301 (301, 302) (Air Science 3). Air Force Officer Development. (4:4:0) F. Reasor

Junior year: Knowledge and skills required of a junior officer in the Air Force. Includes staff organization and functions, communicating, instructing, and techniques of problem solving.

302 (302, 303) (Air Science 3). Air Force Officer Development. (4:4:0) S. Reasor

Junior year: Principles and practices of leadership. Includes basic psychology of leadership, the military justice system, and application of problem solving techniques and leadership theory to simulated and real Air Force problems.

330-331. Leadership Laboratory - Juniors. (0:0:2) F.S.

Staff

401 (412, 413) (Air Science 4). Weather and Navigation. (1:2:0) F. Reasor

Senior year: A study of weather and navigational aspects of airmanship, and maps and charts. Limited to the first half of the semester for students not enrolled in the Flight Instruction Program.

402 (413, 414) (Air Science 4). The Air Force Officer. (1:1:0) S. Gibson

Senior year: A study of materials to help the cadet make a rapid, effective adjustment to active duty as an officer of the United States Air Force.

440-441. Leadership Laboratory - Seniors. (0:0:2) F.S.

Staff

Additional Courses Required for AFROTC Graduation*

Political Science 115 (115) (Air Science 4). International Relations. (3:3:0) F. Staff

Senior year. This course is devoted to a study of major factors underlying international tensions. Political Science 370 is also acceptable to satisfy this requirement.

Geography 441 (584) (Air Science 4). World Political Geography. (3:3:0) S. Fisher

Senior year. A study of the military aspects of political geography, factors of power, and the geographic influences upon political problems with a geopolitical analysis of the strategic areas.

* These courses are authorized substitutions for courses formerly taught by the Department of Air Science. They contain the same subject material and must be completed prior to graduation from AFROTC. They may be taken earlier than the senior year if the academic load of the student permits. They must, however, be completed in the order indicated and no later than the end of the appropriate Air Science 4 semester. It should be noted that these courses are also acceptable for General Education Requirements in the Social Science Group.

Animal Husbandry

Professors: Morris (chairman, 150 B), Cannon.

Associate Professors: Richards, Shumway.

Assistant Professor: Hoopes.

Instructor: Mikkelsen.



The Department of Animal Husbandry offers training for the following activities: (1) practical livestock farming and operation, (2) livestock and herd managers, (3) commercial and government agricultural positions, (4) pre-veterinary preparation, (5) preparation for study toward the M.S. or Ph.D. degrees, and (6) agricultural teaching when the program is planned in that direction.

A student may specialize in one of three areas of the animal sciences or in a combination of all three. He may specialize in the study of meat animals (beef, sheep, and swine), dairy husbandry, or poultry husbandry; but all majors must take the following courses in Animal Husbandry: 161, 170, 207, 208, 215, 291, 311, 592. The student may then elect the remainder of his major from the courses of his choice in the animal husbandry field. A minimum of twenty-four hours is required for an animal husbandry major.

Animal husbandry majors are encouraged to take more than the required number of hours needed for graduation in both the physical and biological sciences. (See "General Requirements for Graduation" near the front of this catalog.)

Animal husbandry students are required to take one or more courses from each of the following areas:

Agricultural Economics 101, 125 or 325, 410.

Agronomy 141, 251.

Horticulture 101 or 103, 310.

Students planning to return to the farm or do service work should fill elective courses from the following areas depending on specific likes and desires (courses shown are merely suggested):

Agricultural Economics 101, 125, 320, 325, 360, 410, 425.

Agronomy 141, 251, 302, 305, 451, 455.

Bacteriology 121.

Botany 101, 176, 440, 450, 462, 465.

Industrial Education 103, 120, 125, 285, 308, 341, 482.

Journalism 211, 571.

Speech 101 or 102, 121.

Requirements for those students preparing for a pre-veterinary program are listed under the College of Biological and Agricultural Sciences in this catalog.

Students planning to do graduate work should elect from the following courses:

Statistics 221, 431, 531.
 Bacteriology 121, 331, 371, 501.
 Botany 101, 376, 501.
 Chemistry 111, 112, 113, 220, 221, 351, 352, 581, 582.
 German 101, 102.
 Mathematics 111, 112.
 Zoology 105, 164, 363, 365, 370, 373, 376, 417.

The schedule shown below is a suggested outline for animal husbandry majors:

Freshman Year			Sophomore Year		
	F	S		F	S
An. Hus. 207, 215	3	3	An. Hus. 161, 170	3	3
An. Hus. 291, 208	1	2	An. Hus. 120		3
English 111, 112	3	3	Bact. 121 or Bot. 101 or		
Religion	2	2	Zool. 105	3	
Phys. Ed.	1	1	Agron. 141 or 251	3-4	
Health 130	2		Agric. Econ. 101, 125....	3	3
Bact. 121 or Bot. 101 or			Religion	2	2
Zool. 105		3	Chemistry 101, 102 or		
Agron. 141 or 251	3-4		111, 112	4-5	3-5
Hort. 101 or 103	3	3			
Total Hours	18-19	17	Total Hours	18-20	14-16

Lower Division Courses

- 102x (102x).** History of Breeds of Livestock. (3) Home Study only. Richards
- 120 (120, 166).** Livestock Judging and Selection. (3:2:4) S. Shumway
 A study of animal types and their relation to the functions of animals.
- 153 (215).** Fundamentals of Animal Breeding. (3:3:0) F. Richards
 A study of the principles involved in breeding animals, including physiology of reproduction, heredity and variation, and selection and systems of breeding.
- 161 (161).** Elements of Dairying. (3:2:3) F. Home Study also. Richards
 General principles of breeding, feeding, and management of dairy cattle.
- 162, 163 (162, 163, 164).** Dairy Husbandry Practices. (1-2:0:Arr.) F.S. Prerequisite: Animal Husbandry 161, or concurrent registration. Richards
 Each student is required to feed, care, manage, and milk his own cows at the University laboratory area. Feeding, sanitation, and management are stressed.
- 170 (170).** General Poultry. (3:2:2) S. Home Study also. Morris
 A general course dealing with problems of feeding, housing, and management.
- 171 (171).** Poultry Practices. (1-2:0:Arr.) F.S. Prerequisite: Animal Husbandry 170. Morris
 Project and laboratory experience in raising broilers and young stock.
- 207 (207).** Feeds and Feeding. (3:3:0) F.S. Home Study also. Shumway
 Principles of nutrition and their applications to all types of farm animals.
- 208 (208).** Fitting and Showing Livestock. (2:0:6) S. Richards
 Demonstrations and discussions involving preparation of each type of livestock for show. Each student is assigned animals to fit and show at

one of the spring shows and the campus livestock show.

- 291 (291). **Animal Husbandry Survey.** (1:1:0) F. Cannon
An analysis by agricultural leaders regarding the future of animal agriculture.

Upper Division Courses

- 311 (311, 313). **Animal Physiology and Anatomy.** (4:3:2) F. Prerequisite: Zoology 105. Hoopes
A study of the construction and functions of the animal body by systems. Emphasis is placed on the digestive and reproductive systems.
- 312 (312, 313). **Animal Hygiene.** (4:3:3) S. Prerequisite: Animal Husbandry 311; Recommended prerequisite: Bacteriology 121. Hoopes
Principles of animal sanitation in relation to disease prevention, with emphasis placed on the stockmen's approach to animal disease control.
- 325 (325). **Meats and Meat Preparation.** (3:0:6) S. Home Study also. Hoopes
Care of the meat from slaughter to packaging, inspection of slaughtering and meat plants, processing, meat judging and selection.
- 330 (330). **Horse Husbandry.** (2:0:4) S. Hoopes
A brief study of breeds of horses, with emphasis on feeding, training, and management.
- 335 (335). **Beef Production.** (3:2:2) F. Home Study also. Prerequisite: Animal Husbandry 207. Shumway
The problems of breeding, feeding, and management of range cattle, feeder cattle, and purebreds.
- 337, 338 (337, 338, 339). **Beef Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Each student is required to feed, manage, and care for a designated number of beef animals.
- 340 (340). **Sheep Production.** (2:0:4) S. Prerequisites: Animal Husbandry 207, 215. Shumway
Feeding, care, and management of farm and range sheep.
- 341 (341). **Sheep Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Each student is assigned a definite number of sheep for which he is required to care as well as to keep records of feed consumption, gains, etc.
- 345 (345). **Swine Production.** (2:0:4) S. Home Study also. Prerequisites: Animal Husbandry 207, 215. Shumway
Breeding, feeding, and management of swine on western farms.
- 346 (346). **Swine Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Practices in the care, feeding, and management of growing and fattening swine.
- 365 (365). **Milk and Milk Processing.** (3:2:2) F. Hoskisson
Modern methods of producing, grading, and processing dairy products.
- 370 (370). **Poultry Management.** (3:2:2) F. Morris
Management and business phases of poultry production. Problems involved in managing laying flocks, broilers, and replacement pullets.
- 373 (373). **Poultry Diseases.** (3:2:2) F. Hoopes
A general treatise of poultry diseases, their control and treatment.
- 378 (378). **Turkey Management.** (2:0:4) S. Morris
Principles, practices, and problems of turkey production, including brooding, feeding, growing, and marketing.

- 420 (420). Advanced Judging.** (2:0:6) F. Prerequisite: Animal Husbandry 120. Shumway
Advanced work in livestock judging. The judging team is selected from this class.
- 436, 437 (436, 437). Advanced Beef Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Deals primarily with care and management of the beef breeding herd.
- 446, 447 (446, 447). Advanced Swine Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Care and management of the brood sow prior to, during, and the six to eight weeks following farrowing.
- 463 (463). Artificial Insemination.** (2:0:4) F. Prerequisite: Animal Husbandry 215. Richards
Methods and techniques of artificial breeding are studied and accompanied by laboratory work.
- 464, 465 (464, 465, 466). Advanced Dairy Husbandry Practices.** (1-2:0:Arr.) F.S. Richards
Specific instruction and responsibility are given in modern milking methods, care and handling of milk, the pregnant cow, young calf, the fresh cow, the lactating cows.

Advanced Undergraduate or Graduate Courses

- 507 (427, 477, 607). Animal Nutrition.** (4:3:2) F. Morris
- 515 (515, 362). Advanced Animal Breeding.** (3:3:0) S. Richards
- 560 (460, 564). Advanced Dairy Production.** (4:3:3) S. Richards
- 571 (571, 572). Advanced Poultry Practices.** (1-2:0:Arr.) F.S. Morris
- 592 (592, 593). Seminar.** (2:2:0) S. Cannon
A critical review and analysis of current research, findings, and methods in animal agriculture.

Graduate Courses

- 601 (601). Experimental Techniques and Design.** (2:2:0) F.S. Cannon
- 660 (660). Advanced Livestock Management.** (2:1:3) S. Cannon
- 691, 692 (691, 692, 693). Animal Husbandry Research.** (1-2:0:3-6) F.S. Staff
- 694, 695 (694, 695, 696). Animal Husbandry Research.** (1-2:0:3-6) F.S. Staff
- 699 (699). Thesis for Master's Degree.** (2-4:0:Arr.) F.S.Su. Staff

The following courses also count for credit in Animal Husbandry:

- Statistics 221. Principles of Statistics.** (2:2:0).
Statistics 431. Statistical Methods. (3:3:0).
Statistics 531. Experimental Design. (2:2:0)

Anthropology

(See Sociology and Anthropology.)

Archaeology

Professor: R. T. Christensen (chairman, 203 ESC).

Assistant
Professor:

Jakeman



Archaeology is the science which investigates the history of man from the evidence of his actual material remains. By means of such evidence, it is able not only to reconstruct man's early unwritten history, but also to check, clarify, and supplement the records of his early written history.

The emphasis of this department is on the division of archaeology which has as its purpose the checking, clarification, and supplementation of the records (or purported records) of early written history, i.e. **historic archaeology**. The great contributions of historic archaeology in supplementing the established biblical and classical records of ancient history are surveyed; but special attention is given the discoveries that check and clarify only partly established or purported records of ancient times, such as the earlier books of the Bible, the distinctive Latter-day Saint scriptures known as the Book of Abraham and the Book of Mormon, and the early Indian and Spanish chronicles of ancient America. (For introductory courses in **prehistoric archaeology**—the study of the culture-history of early primitive and other peoples lacking a recorded history—see Anthropology 241 and 246.)

Considerable attention is also given to the methods of archaeological research. Provision is made for practical in-service training in archaeological methods, and exciting experiences are available as part of this training. Undergraduate students, for example, participate in excavations at Indian mound sites in Utah Valley, while graduate students have the opportunity of accompanying one of the periodic archaeological expeditions of the University to the Book of Mormon lands of Mexico and Central America.

An **undergraduate** major is not offered in this department. An undergraduate minor, however, may be obtained upon the completion of 14 hours of work in this department, including courses 310, 318, 360, and 440. A **graduate** major or minor at the master's level is offered. A graduate major prepares the student for professional work in archaeology, such as teaching and/or research and writing, specifically in the division of historic archaeology. For full preparation for graduate and professional work in this division, an undergraduate major in history—with emphasis on ancient history—and an undergraduate minor in archaeology are recommended; also the following courses in other departments: Geography 101 and 312; English 215 and 216; Speech 101; Art 101, 122, and 403; Physics 177; and French 101, 102, 201, and 301 or Spanish 101, 102, 201, and 301.

In this department, courses not offered one year will be given the following year.

Upper Division Courses

These courses introduce the student to the main fields of archaeology, particularly the historic fields including the archaeology of the scriptures.

- 310 (310). Introduction to Oriental and Biblical (Historic Near-Eastern) Archaeology.** (3:3:0) F.S.Su. (G-HA; G-R) Recommended prerequisite: History 110. Staff

The principal archaeological discoveries in Iraq, Egypt, Palestine, and other Near Eastern lands, revealing the development of ancient oriental civilization, and checking and supplementing biblical history.

- 318 (318). Introduction to Classical and Christian (Historic Mediterranean) Archaeology.** (2:2:0) Not given this year. Prerequisite: History 110; recommended prerequisites: History 304 and 307, Archaeology 310, and Church History 451. Jakeman

A survey of the antiquities of Greece, Italy, and other Mediterranean lands, illustrating the development of the ancient Graeco-Roman civilization and the early Christian church.

- 327 (327). Ancient Prehistoric Civilizations of the Old World.** (2:2:0) S. Prerequisite: Archaeology 310; recommended prerequisite: Anthropology 241. Christensen

A study in prehistoric Old World archaeology, with special attention to the discoveries of the Indus Valley, Aegean, and other ancient prehistoric civilizations of the eastern hemisphere.

- 360 (360). Ancient Civilizations of the New World.** (3:3:0) F.S.Su. (G-R) Prerequisite: Archaeology 310. Staff

A study in New World archaeology, with special attention to the discoveries throwing light upon the origin and history of the ancient civilizations of this hemisphere.

- 440 (388, 455). Archaeology and Early History of Middle America.** (3:3:0) S. (G-R) Prerequisite: Archaeology 360. Jakeman

The early chronicled history of pre-Spanish Mexico and Central America, checked and supplemented by the archaeological history of this region. (Historic Mesoamerican archaeology.)

- 480 (465). Archaeology and Early History of Peru.** (2:2:0) Not given this year. Prerequisite: Archaeology 360. Christensen

The early chronicled history of pre-Spanish Peru and neighboring countries of Andean South America, checked and supplemented by the archaeological history of this region.

For courses in other departments which count in archaeology, see the listing at the end of this section.

Advanced Undergraduate or Graduate Courses

These courses are specially designed for students planning graduate work and a professional career in archaeology.

- 500 (601). History and Theory of Archaeology.** (3:3:0) F. Prerequisite: Archaeology 310 and 360; recommended prerequisite: Archaeology 327. Christensen

A survey of the development of archaeology as a science, and a study of the "culture-tradition" and "developmental-stage" concepts of archaeology as related to human culture-history.

- 551 (531, 551). Methods of Archaeological Research: General and Field.** (4:0-2:8-4) Not given this year. Prerequisite: Archaeology 310. Christensen

The steps in an archaeological research project; and an introduction to field methods, stratigraphy, and typology, including student excavation of an Indian mound of Utah Valley.

- 571 (571). **Methods of Archaeological Research: Interpretative.** (3:3:0) Not given this year. Prerequisite: Archaeology 551. Christensen
Interpretation of empiric archaeological data as to culture meaning and represented culture units; methods of chronological interpretation; and practice in archaeological ethnography and historiography.
- 590 (596, 597, 598). **Recent Developments in Archaeology.** (4:2:6) S. Prerequisites: Archaeology 310, 318 or 327, 440 or 480, and 500. Jakeman
Includes individual reports in two of the following fields: Near Eastern-biblical (Mesopotamian, Egyptian, or Syro-Palestinian), Mediterranean (Aegean, classical, or Christian), Northern European, Eastern Asiatic, Mesoamerican, Andean, North American.

Graduate Courses

The emphasis of these courses is on the two fields of historic (and late prehistoric) archaeology bearing upon the fundamental problem of the origin of civilization in the Old and New Worlds, and the important historical claims of the Hebrew-Christian and Latter-day Saint scriptures; i.e., Near Eastern and Middle American-Andean archaeology.

- 631 (671, 672). **Introduction to the Reading of Maya and Aztec Hieroglyphics.** (3:1:6) Not given this year. Prerequisite: an undergraduate minor in Archaeology. Jakeman
- 641 (590). **Museum Methods and Teaching of Archaeology.** (3:1:6) F. Prerequisite: an undergraduate minor in Archaeology. Christensen
In-service training in archaeological museum methods and in the teaching of archaeology.
- 651 (590, 621, 631). **Advanced Field Methods of Archaeology.** (5:0:15) S Prerequisites: an undergraduate minor in Archaeology and course 551. Staff
Further in-service training in archaeological field methods as a member of one of the Brigham Young University archaeological expeditions to Mexico or Central America.
- 690 (594). **Seminar in Historical Archaeology.** (2:2:0) Not given this year. Prerequisites: an undergraduate minor in Archaeology and course 590. Jakeman
Problems in historic archaeology, particularly the archaeology of the scriptures.
- 695 (650, 655). **Library Research in Near-Eastern Archaeology.** (2:0:6) Not given this year. Must be taken concurrently with Archaeology 690. Staff
Independent library research in oriental or biblical archaeology (Mesopotamian, Iranian, Egyptian, Syro-Palestinian, general oriental, or general biblical) or the archaeology of the Pearl of Great Price.
- 696 (660, 665). **Library Research in Middle American-Andean Archaeology.** (2:0:6) Not given this year. Must be taken concurrently with Archaeology 690. Staff
Independent library research in Middle American or Andean archaeology (Mesoamerican or Peruvian archaeological and chronicled history, Mesoamerican hieroglyphic decipherment, or research in the origin of the Middle American-Andean civilizations).
- 697 (695, 696). **Field Research.** (5-10:0:15-30) S. Prerequisites: Archaeology 590 and 651 (latter may be taken concurrently). Staff
Participation in an archaeological excavation in Near Eastern-biblical or Mesoamerican-Book of Mormon lands, with opportunity for independent field research at the same or a nearby site.
- 699 (699). **Thesis for Master's Degree.** (5:0:15) S.Su. Prerequisites: Archaeology 571 and 695, 696, or 697. Staff

The following courses in other departments also count for undergraduate credit in Archaeology below the 500 level:

Anthropology 241. The Growth of Culture in the Old World (an introduction to prehistoric Old World archaeology). 3:3:0)

Anthropology 246. The Growth of Culture in the New World (an introduction to prehistoric American archaeology). (2:2:0)

Art 403. Ancient and Primitive Art. (2:2:0)

Biblical Languages 691. The Reading of Ancient Hebrew Inscriptions. (3:3:0)

Biblical Languages 793 and 794. Elementary Akkadian. (2:2:0 ea.)

Biblical Languages 795 and 796. Elementary Egyptian. (2:2:0 ea.)

Art



Professors: Andrus (chairman, 315 E), Matthews, deJong, Larsen (emeritus).

Associate Professors: Gunn, Turner.

Assistant Professor: Wilson.

Instructors: Burnside, Darais, Johansen, Magleby.

Special Instructors: Knell, Taylor.

The programs leading to a major in art are planned for those who desire to pursue a general art course or to prepare for careers in art education, commercial art, interior design, painting, printmaking and painting, sculpture and ceramics. Curricula for commercial art majors and those who are planning to teach art in the secondary schools may lead to either Bachelor of Arts or Bachelor of Science degrees. Students who elect programs in interior design, painting, printmaking and painting, sculpture and ceramics, and the general course will work toward a Bachelor of Arts degree.

Lower division requirements for the major in art include drawing (122) and design (227, 233, 239, 250, 256, and 263 or their equivalents). The major program begins with Art 122. The design requirements may be taken concurrently with the drawing requirement. Before attempting advanced design (310) the student must present to a faculty jury a portfolio of twenty-one pieces of work, three from each of the required lower division classes.

Upper division requirements include twenty-one hours of upper division work including six hours of art history. The lower and upper division requirements for each of the optional programs for the major in art will follow.

Art students intending to teach art on the secondary level will begin with Instruction 301 with the second semester of their sophomore year. For the remainder of the sequence of courses in education see "Preparation of Secondary School Teachers" under the College of Education. Student teachers in Art Education are also required to have a teaching minor.

Art courses are grouped under the following headings:

Art Education: 226, 377, 479.
 Commercial Art: 239, 312, 341, 342, 343, 544, 546.
 Crafts: 263, 359, 361, 362, 366.
 Design and Advanced Design: 110, 227, 233, 239, 250, 256, 263, 310.
 Drawing and Advanced Drawing: 122, 321, 322.
 History and Appreciation: 101, 306, 307, 308, 403, 405, 501.
 Interior Design: 313, 314, 415, 417.
 Painting: 227, 233, 327, 329, 333, 335, 474, 476, 580, 582.
 Photography: 447, 448.
 Printmaking: 250, 350, 352.
 Sculpture: 256, 356, 358.

Optional Programs for a Major in Art:

Art Education

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 122	3	Art History	6
Art 227	2	Art 310	2
Art 233	2	Art 321 or 322	2
Art 239	2	Art 341 or 312	2
Art 250	2	Art 350 or 352	2
Art 256	2	Art 356	2
Art 263	2	Art 361	2
		Art 366	2
		Painting elective	2

Commercial Art

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 122	3	Art 306	3
Art 227	2	Art 310	2
Art 233	2	Art 322, 342, 343	4
Art 239	2	Art 341	3
Art 250	2	Art 350 or 352	2
Art 256	2	Art 405	3
Art 263	2	Art 447 or 448	2
		Art 546	3
		Painting electives	4

Interior Design

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 122	3	Art History	6
Art 227	2	Art 310	2
Art 233	2	Art 313	2
Art 239	2	Art 314	2
Art 250	2	Art 415	3
Art 256	2	Art 417	3
Art 263	2	Art 501	2
		Art electives	4

Painting

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 122	3	Art History	6
Art 227	2	Art 310	2
Art 233	2	Art 321 or 322	2
Art 239	2	Art 327 or 329	2
Art 250	2	Art 333 or 335	2
Art 256	2	Art 474 or 476	2
Art 263	2	Art 580 or 582	2
		Painting electives	4

Printmaking and Painting

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 122	3	Art History	6
Art 227	2	Art 310	2
Art 233	2	Art 314	2
Art 239	2	Art 322	2
Art 250	2	Art 327 or 329	2
Art 256	2	Art 333 or 335	2
Art 263	2	Art 350	2
		Art 352	2
		Art 474 or 476	2

Sculpture and Ceramics

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 122	3	Art History	6
Art 227	2	Art 310	2
Art 233	2	Art 321 or 322	2
Art 239	2	Art 350 or 352	2
Art 250	2	Art 356	2
Art 256	2	Art 358	2
Art 263	2	Art 359	2
		Art 361	2
		Art 366	2

General Art

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Drawing	2	Art History	6
Art 122	3	Art 310	2
Art 227	2	Art 321 or 322	2
Art 233	2	Oils	4
Art 239	2	Water Colors or Prints	2
Art 250	2	Ceramics or Sculpture	2
Art 256	2	Crafts or Interior Design	2
Art 263	2	Art 501	2

Lower Division Courses

- 101 (101). Introduction to Art.** (2:2:0) F.S. (G-HA) **Turner**
A survey of art. Appreciation course for non-art majors. Introduction to basic understanding in art with emphasis on art processes through lectures, demonstrations, and studio and gallery visits.
- 108 (New). General Art.** (2:2:2) F.S.Su. (G-HA) **Staff**
Introduction to appreciation and creative expression. Lectures, demonstrations, and exploratory experiences in painting, lettering, crafts, printmaking, and modeling. Offered to meet the need of general education students who wish to participate in art activities. (Not for art majors.)
- 110 (110). Design in Everyday Life.** (2:3:0) F.S. (G-HA) **Staff**
A study of good taste and sensitivity to design in contemporary life. (Not for art majors.)
- 122 (121, 122). Basic Figure Drawing.** (3:6:0) F.S.Su. Andrus, Gunn, Magleby
Drawing from the model. A study of an experience with the elements of graphic expression.

- 227 (227). **Design in Oil Painting.** (2:4:0) F.S.Su. Turner, Staff
Oil colors as a design medium. Emphasis on expressive use of the oil paints.
- 233 (233). **Design in Water Color Painting.** (2:4:0) F.S. Turner
Survey and application of the various techniques of water color painting.
- 239 (239, 240). **Design (Layout and Lettering).** (2:3:0) F.S. Staff
Basic skills in lettering and designing for commercial purposes.
- 250 (250). **Design in Printmaking.** (2:4:0) F.S.Su. Andrus
Introduction to fine printmaking including the relief, intaglio, planographic and stencil processes.
- 256 (256, 259). **Design in Plastic Art Media.** (2:4:0) F.S.Su. Wilson
Exploratory experiences with a variety of ceramic and sculptural materials in creating expressive form through the use of direct working processes.
- 263 (263). **Design in Crafts.** (2:4:0) F.Su. Johansen
Creative design in metal, wood, leather, mosaic, textile and other media.

Upper Division Courses

- 306 (306). **Art History and Appreciation.** (3:3:0) F.S. (G-HA) Mathews
A survey of the art of the western world covering the various periods including the contemporary styles in the 19th and 20th centuries.
- 307 (307). **Contemporary Art.** (2:2:0) S.Su. (G-HA) Burnside, Mathews
The rise and progress of contemporary art in Europe and America.
- 308 (308). **American Art.** (2:2:0) F. (G-HA) Burnside
A survey of American painting, architecture, and sculpture from the 17th century to the present.
- 310 (310). **Advanced Design.** (2:4:0) F.S. Prerequisites: Art 122, 227, 233, 239, 250, 256, 263. Darais
Art structure as a means for expression of ideas and emotions.
- 312 (New). **Product Design.** (2:2:2) F. Prerequisites: Art 122, 227, 239, 250, 263. Johansen
Planning and making packages, models or mock-ups. Emphasis upon visual appeal.
- 314 (314). **Interior Design.** (2:2:0) F. Taylor
Decorative and functional features of the interior of the home.
- 321 (315). **Interpretive Drawing.** (2:4:0) F. Prerequisites: Art 122, 239, 250. Staff
Expressive use of the elements of visual communication. Emphasis upon personal selection and interpretation of motifs.
- 322 (322). **Advanced Figure Drawing.** (2:4:0) S.Su. Prerequisites: Art 122, 239, 250. Andrus, Staff
Advanced work in drawing the human figure with emphasis on structure and individuality of expression.
- 327 (327, 328). **Landscape and Still Life Painting.** (2:4:0) F. Prerequisites: Art 122, 227. Turner, Staff
Oil painting from landscape and still life objects with emphasis on developing the individual expressive capacities of the students.
- 329 (328, 329). **Landscape and Still Life Painting.** (2:4:0) S. Prerequisites: Art 122, 227. Turner
Oil painting from landscape and still life objects with emphasis on developing the individual expressive capacities of the students.

- 333 (333, 334). **Water Color Painting.** (2:4:0) F.Su. Prerequisites: Art 122, 233. Turner
Development of basic skills in water color painting from landscape and still life objects. Experience in the use of transparent water colors emphasized.
- 335 (334, 335). **Water Color Painting.** (2:4:0) S.Su. Prerequisites: Art 122, 233. Turner
Development of basic skills in water color painting from landscape and still life objects. Experience in working with various aqueous media.
- 341 (341). **Layout.** (3:3:0) F. Prerequisites: Art 122, 239. Gunn
Creation of the idea and organization of visual elements for commercial design.
- 342 (342). **Illustration.** (2:3:0) S. Prerequisites: Art 122, 239. Gunn
Introduction to editorial and advertising illustration, exploration of tools and media, visualization of the idea, approaches to rendering.
- 343 (343). **Fashion Illustration.** (2:3:0) S. Prerequisites: Art 122, 239. Gunn
Introduction to fashion illustration. The gesture, proportion, and effective linear expression of the fashion figure, approaches to rendering apparel and the development of individual style.
- 350 (350, 351). **Printmaking Workshop.** (2:4:0) F.Su. Prerequisites: Art 122, 250. Andrus
Relief and intaglio fine printmaking based upon traditional and contemporary concepts, materials and procedures.
- 352 (351, 352). **Printmaking Workshop.** (2:4:0) S. Prerequisites: Art 122, 250. Andrus
Lithography and silk screen based upon traditional and contemporary concepts, materials and procedures.
- 356 (356, 357). **Sculpture.** (2:4:0) F.S.Su. Prerequisites: Art 122, 256. Wilson
Methods of creating expressive sculptural form which emphasize the direct working processes of modeling, buildup and construction.
- 358 (357, 358). **Sculpture.** (2:4:0) S. Prerequisites: Art 122, 256. Wilson
Methods of creating expressive sculptural form which emphasize the cutting and casting processes, encouraging an experimental use of materials.
- 359 (359, 360). **Ceramics.** (2:4:0) F.S.Su. Prerequisites: Art 122, 256. Wilson
Basic methods of creating functional and expressive objects from clay. Forming processes from constructing and throwing, through decorating and glazing to the final fired product.
- 361 (360, 361). **Ceramics.** (2:4:0) F.S.Su. Prerequisites: Art 122, 256. Wilson
Advanced and experimental methods of creating functional and/or expressive objects from clay. Concentration on the development of clay bodies and glazes using a variety of firing processes.
- 362 (362). **Textile Design.** (2:4:0) F.S. Prerequisites: Art 122, 263, 250. Johansen
Silk screen, block printing, stenciling, painting, and dyeing as media for textile design.
- 366 (366). **Metal Work and Jewelry Design.** (2:4:0) S.Su. Prerequisites: Art 122, 263 (non-art majors, 263 only). Johansen
Creative design of copper, silver, aluminium and other media used in etching, enameling, forming and modeling, soldering, silver casting and lapidary, etc.
- 403 (403, 404). **Ancient and Primitive Art.** (2:2:0) S. (G-HA) Mathews
The history of ancient art including Egypt, Mesopotamia, and Greece. Primitive cultures will include African Negro, Pacific Islands, American In-

dian and Pre-Columbian.

- 405 (404, 405). **Medieval and Renaissance Art.** (3:3:0) S. (G-HA) Burnside
The history and appreciation of Medieval and Renaissance painting, sculpture and architecture.
- 415 (415, 416). **Interior Design.** (3:3:0) F. Prerequisites: Art 121, 314. Taylor
A history of interior design and a study of period furnishings. (Continued in Art 417).
- 417 (416, 417). **Interior Design.** (3:3:0) S. Prerequisites: Art 121, 413, 415. Taylor
A practical study of the manufacture, design, installation, and care of media and materials used in interior design.
- 447 (447). **Portrait Photography.** (2:4:0) F. Prerequisites: Art 122, 239. Staff
General portrait studio and darkroom procedures with emphasis upon the plastic quality of light on the human head and figure.
- 448 (448). **Pictorial Photography.** (2:4:0) S. Prerequisites: Art 122, 239. Staff
The study of art structure in its application to photography. Experience in photographing landscape, still life, and the human figure.
- 474 (474, 475). **Portrait and Figure Painting.** (2:4:0) F.S. Prerequisites: Art 122, 227. Andrus
Oil painting from the model with emphasis upon design and the development of a personal method.
- 476 (475, 476). **Portrait and Figure Painting.** (2:4:0) S. Prerequisites: Art 122, 227. Andrus
Oil painting from the model with emphasis upon design and the development of an expressive style.

Art Education

- 226 (226). **Art for Elementary Teachers.** (2:2:2) F.S. Staff
Role of art in public schools; basic art education theory, including levels of artistic growth, classroom activities and aesthetic experiences for teacher growth.
- 377 (377). **Basic Classroom Procedures.** (3:3:0) F. Prerequisite: Art 301. Gunn
- 479 (479). **Secondary Student Teaching.** (8:0:0) Su. Prerequisite: Art 337. Gunn

Advanced Undergraduate or Graduate Courses

- 501 (501). **Aesthetics.** (2:2:0) S. de Jong
Theoretical and practical criteria of aesthetic values.
- 544 (544, 545). **Portfolio Preparation.** (2:3:0) F. Prerequisites: Art 122, 239, 341, 342. Gunn
An analysis of individual strengths and weaknesses. Specialization opportunities provided in various areas of commercial design and display. Preparation of portfolio emphasized.
- 546 (545, 546). **Advanced Commercial Art.** (3:4:0) S. Prerequisite: Art 544. Gunn
Professional standards in a specialized field of commercial art emphasized. Students judged proficient by a faculty committee are given experience in a practicing agency.
- 580 (580, 581). **Mural Painting.** (2:4:0) F. Prerequisites: Art 310, 321 or 322. Darais
Historical backgrounds, design, and execution of murals.

- 582 (581, 582). **Mural Painting.** (2:4:0) S. Prerequisites: Art 310, 321 or 322.
Darais
Historical backgrounds, design, and execution of murals.
- 586 (586, 587). **Studio Art.** (1-3:2-4:2-4) F.Su. Prerequisite: Permission of department chairman. Staff
- 588 (587, 588). **Studio Art.** (1-3:2-4:2-4) S. Prerequisite: Permission of department chairman. Staff

Graduate Courses

- 615 (615, 616). **Period Furnishing and Other Decorative Material for Interior Design.** (3:3:0) F. Taylor
- 617 (616, 617). **Practical Problems in Interior Design.** (3:3:0) S. Taylor
- 621 (621, 623). **Advanced Drawing and Painting.** (1-3:Arr.:Arr.) F. Andrus
- 622 (622, 623). **Advanced Figure Drawing and Painting.** (1-3:Arr.:Arr.) S. snrpyv
- 624 (624). **Advanced Landscape Painting.** (1-3:Arr.:Arr.) F. Turner
- 625 (625, 626). **Advanced Still Life Painting.** (1-3:Arr.:Arr.) S. Turner
- 627 (627). **Pictorial Composition.** (1-3:Arr.:Arr.) F. Turner
- 629 (628, 629). **Pictorial Design.** (1-3:Arr.:Arr.) S. Turner
- 633 (633, 634). **Advanced Water Color Painting.** (1-3:Arr.:Arr.) F. Turner
- 635 (635). **Advanced Aqueous Painting Media.** (1-3:Arr.:Arr.) F. Turner
- 639 (639). **Advanced Layout.** (1-3:Arr.:Arr.) F. Gunn
- 642 (642). **Advanced Illustration.** (1-3:Arr.:Arr.) S. Gunn
- 650 (650, 651). **Advanced Relief and Intaglio Printmaking.** (1-3:Arr.:Arr.) F. Andrus
- 652 (651, 652). **Serigraphy and Color Lithography.** (1-3:Arr.:Arr.) S. Andrus
- 656 (656, 657). **Advanced Sculpture.** (1-3:Arr.:Arr.) F. Wilson
- 658 (657, 658). **Advanced Sculpture.** (1-3:Arr.:Arr.) S. Wilson
- 665 (665). **Advanced Ceramics.** (1-3:Arr.:Arr.) F.S. Wilson
- 666 (666). **Advanced Metal and Jewelry Design.** (1-3:Arr.:Arr.) F.S. Johansen
- 668 (668). **Teaching Art in Secondary Schools.** (1-3:Arr.:Arr.) S. Staff
- 671 (671). **Survey of Recent Studies in Art Education.** (1-3:Arr.:Arr.) F. Gunn
- 674 (674, 675). **Advanced Portrait Painting.** (1-3:Arr.:Arr.) F. Andrus
- 676 (675, 676). **Advanced Figure Painting.** (1-3:Arr.:Arr.) S. Andrus
- 680 (680, 681). **Advanced Mural Design and Painting.** (1-3:Arr.:Arr.) F. Darais
- 682 (681, 682). **Advanced Mural Design and Painting.** (1-3:Arr.:Arr.) S. Darais
- 686 (686, 687). **Studio Art.** (1-3:Arr.:Arr.) F. Staff

688	(687, 688). Studio Art. (1-3:Arr.:Arr.) F.	Staff
690	(690, 691). Color. (2:2:0) F.	Andrus
692	(691, 692). Color. (2:2:0) S.	Andrus
695	(695). Seminar. (1:1:0) F.S.	Staff
699	(699). Thesis for Master's Degree. (1-4:Arr.:Arr.) F.S.	Staff

Astronomy

(See courses in Physics.)

Bacteriology



Professor: Beck.
Associate Professor: Donaldson (chairman, 173 B), Larsen.
Assistant Professor: Hoskisson, Sagers.
Instructor: Chugg.
Special Instructors: Call, Carlquist, LeCheminant.

Bacteriology is one of the subjects comprising the composite major in biological science designed for prospective teachers.

Medical technology is under the direction of the Department of Bacteriology. The advisers are Professors Larsen and Sagers.

The minimum requirements for a major in bacteriology are completion of the following courses or their equivalents in bacteriology and supporting fields: bacteriology, 21 hours; zoology or botany, 6 hours; Chemistry 101, 102, 220, 284; and Mathematics 111. Recommended courses in supporting fields are: Botany 101, 335, 440; Chemistry 111, 112, 113, 221, 351, 352, 581, 582; Mathematics 111, 112, 213, 214; Physics 201, 202; and Zoology 105, 164, 176, 417.

The following curriculum is recommended for students who want adequate preparation for post-graduate university training in bacteriology. The courses of physics, advanced mathematics, and advanced chemistry may be replaced by other courses in the physical or biological sciences by students who do not plan on graduate work.

Freshman Year

	F	S
Chemistry 111, 112	4	3
Mathematics 111, 112 ..	5	5
English 111, 112	3	3
Physical Education	1	1
Health	2	
Religion	2	2
Humanities		3-4
	17	17-18

Sophomore Year

	F	S
Chemistry 113, 221	3	3
Physics 201, 202	4	4
Mathematics 213	5	
Zoology 105		3
History 170		3
Religion	2	2
English Literature	2-3	2-3
	16-17	17-18

Junior Year			Senior Year		
	F	S		F	S
Bacteriology 301, 501 ..	4	4	Bacteriology 491	1	1
Chemistry 351, 352	3	3	Bacteriology 511, 531 ..	3	2
Chemistry 354, 355	1	1	Bacteriology 532		1
Language	3	3	Bacteriology 551		2
Religion	2	2	Bacteriology 552		1
Social Science	3-4	2-3	Chemistry 581, 582	5	5
Elective		2	Botany 101	3	
			Religion	2	2
			Electives	3	3
	16-17	17-18		17	17

Lower Division Courses

- 121 (121). General Bacteriology.** (3:2:3) Home Study also—no laboratory, 2 hours credit. (G-BS) Staff
A study of the general characteristics of microorganisms and their relation to man.

Upper Division Courses

- 311 (311). Sanitation and Public Health.** (2:2:0) Home Study also. (G-BS) Staff
Sanitary and public health practices.
- 321 (New). General Microbiology.** (3:3:0) F.S. (G-BS) Prerequisites: any chemistry course or Physical Science 101 and 102, and any zoology or botany course. Staff
A study of the microbial world.
- 322 (New). General Microbiology Laboratory.** (1:0:3) F.S. Prerequisite: concurrent or previous registration in Bacteriology 321. Staff
- 331 (301). Microbiology.** (4:2:6) F.S. (G-BS) Prerequisite: any organic chemistry course. Staff
Introduction to microbiology.
- 361 (361). Food Microbiology.** (2:1:3) F. Prerequisite: Bacteriology 121 or its equivalent. Hoskisson
A study of the microbiology of food.
- 371 (371). Dairy Microbiology.** (2:1:3) S. Prerequisite: Bacteriology 121 or its equivalent. Hoskisson
A study of the microbiology of dairy products.
- 381 (381). Water and Sewage Microbiology.** (2:1:3) S. Prerequisite: Bacteriology 121 or its equivalent. Hoskisson
A study of the microbiology of water purification and sewage disposal.
- 391 (391). Clinical Pathology.** (2:1:3) S. Prerequisite: Bacteriology 331. Call, LeCheminant
A study of the theory and application of diagnostic methods employed in hospital laboratories.
- 401, 402 (401, 402, 403). Applied Clinical Diagnosis Laboratory.** (15:3-9:18-30) F.S. Staff
Work is done in an approved hospital during a year's practical internship. Hospital selected must be accredited by Council of Medical Education of the A.M.A., and its pathologist and radiographic technician recognized by the American Society of Clinical Pathologists. Credit is given on basis of a statement from the approved pathologist that student has satisfactorily completed work.

- 491 (491). Seminar. (1:1:0) F.S. Staff
- 495 (495). Special Problems. (1-4:Arr.:Arr.) F.S. Staff
Individual work on research problems. Types of problems selected are based on previous preparation of student.

Advanced Undergraduate or Graduate Courses

- 501 (501). Pathogenic Microbiology. (4:2:6) S. Prerequisite: Bacteriology 331 or consent of the instructor. Larsen
A study of the characteristics of pathogenic bacteria, viruses, rickettsia, yeasts, and molds.
- 502 (502). Pathogenic Microbiology. (2:1:3) F. Prerequisite: Bacteriology 501. Larsen
Continuation of Bacteriology 501.
- 511 (511). Immunology. (3:2:3) F. Prerequisite: Bacteriology 501 or consent of instructor. Donaldson
Theories of immunity; training in serological methods.
- 521 (521). Industrial Microbiology. (2:2:0) F. Prerequisites: Bacteriology 331 and biochemistry. Larsen
The role of microorganisms in the production of such products as acids, alcohols, antibiotics, vitamins, and enzymes.
- 522 (522). Industrial Microbiology Laboratory. (1:0:3) F. Prerequisites: concurrent or previous registration in Bacteriology 521. Larsen
- 531 (531). Virology. (2:2:0) S. Prerequisite: Bacteriology 501. Staff
Characteristics of viruses and virus diseases.
- 532 (532). Virology Laboratory. (1:0:3) S. Prerequisite: concurrent or previous registration in Bacteriology 531. Staff
- 541 (541). Cultivation and Nutrition of Bacteria. (2:0:6) S. Prerequisite: Bacteriology 301. Sagers
A laboratory study of selective enrichment techniques, fundamental nutritional requirements and growth properties of the major taxonomic groups of bacteria.
- 551 (551). Advanced Microbiology. (2:2:0) F. Prerequisite: Bacteriology 331. Beck, Sagers
- 552 (552). Advanced Microbiology Laboratory. (1:0:3) F. Prerequisite: concurrent or previous registration in Bacteriology 551. Beck, Sagers
- 561 (561). Radioactive Tracer Techniques in Biology. (2:0:6) F. Prerequisite: consent of instructor. Beck
- 581 (581). History of Bacteriology. (1:1:0) F. Prerequisite: senior or graduate status. Larsen

Graduate Courses

- 611 (611). Advanced Immunology. (2:2:0) S. Prerequisite: Bacteriology 511. Donaldson
- 651 (651). Bacterial Metabolism. (2:2:0) S. Prerequisite: Bacteriology 551. Beck
- 652 (652). Bacterial Metabolism Laboratory. (2:0:6) F. Prerequisite: concurrent or previous registration in Bacteriology 651. Beck

- 661 (661). Bacterial Genetics.** (2:2:0) F. Prerequisites: Bacteriology 331, a course in general genetics, and Chemistry 581, 582, 583, or equivalent.

Sagers

A study of genetic processes in bacteria and viruses, with special emphasis on recombination, transduction, mutation, replication mechanisms, and related topics.

- 691 (691). Graduate Seminar.** (1:1:0) F.S. Staff
- 695 (695). Research to Furnish Data for Thesis.** (1-10:Arr.:Arr.) F.S. Staff
- 699 (699). Thesis for Master's Degree.** (1-4:Arr.:Arr.) F.S.

These courses also count in Bacteriology:

Agronomy 614 (614, 615). Advanced Soil Microbiology. (3:2:3)

Botany 335 (535). Fungi. (3:1:6)

Bible and Modern Scripture



Professors: Done, Sperry, Yarn.

Associate Professor: Ludlow (chairman, 13 PhP).

Assistant Professors: Anderson, Andrus, Bankhead, Barrett, Barron, Bentley, Clark, Doxey, Patch, Pearson, Rasmussen, Ricks, Rogers, Turner.

Instructors: Fitzgerald, Meservy, Nielsen.

Courses in the Department of Bible and Modern Scripture are offered to help students meet the religion requirements of the University. An undergraduate major or minor is not offered in this department. A graduate major or minor is offered at both the master's and doctoral level. (See section on College of Religious Instruction.)

Lower Division Courses

- 121, 122 (111, 112, 113). Introduction to the Book of Mormon and Its Teachings.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Staff
Consideration of origin, content, and teachings of the Book of Mormon.
- 211 (123, 124). Introduction to the New Testament: Jesus and the Apostles.** (2:2:0) F.S.Su. Home Study also. (G-R) Staff
Deals with the Gospels and part of the book of Acts.
- 212 (125). Introduction to the New Testament: Paul and the Early Church.** (2:2:0) F.S.Su. Home Study also. (G-R) Staff
Deals with Paul and his letters and the literature of the early Church.

Upper Division Courses

- 301, 302 (301, 302, 303). Introduction to the Old Testament and Its Teachings.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)
Done, Meservy, Rasmussen, Rogers
Course 301 is a brief introduction to the structure of the Old Testament and study of its great teachings, Genesis to I Kings 11. Course 302 considers I Kings 12 to Malachi.
- 324, 325 (331, 332, 333). The Doctrine and Covenants.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Andrus, Doxey, Nielsen
Study of origin and contents of the Doctrine and Covenants.
- 327 (338, 339). Introduction to the Pearl of Great Price.** (2:2:0) F.S.Su. Home Study also. (G-R) Andrus, Clark
Study of origin and content of the Pearl of Great Price.
- 401 (311). Israel's Prophets.** (2:2:0) F.S.Su. (G-R) Recommended prerequisite: Scripture 301 and 302. Meservy, Rasmussen, Rogers, Sperry
A study of the messages of the great "Writing Prophets" and their value in their time and ours.

- 411 (623). **Life and Teachings of Jesus.** (2:2:0) F.S.Su. (G-R)
Bentley, Patch, Ricks, Rogers, Sperry, Turner
The teachings of Jesus Christ and the major events of his life.
- 421, 422 (322, 323, 324). **History and Teachings of the Book of Mormon.**
(2:2:0 ea.) F.S.Su. (G-R)
Bankhead, Ludlow, Nielsen, Pearson, Ricks, Turner
Selected problems and teachings of Nephite sacred scripture. Not open to
students who have had Scripture 121, 122,
Advanced Undergraduate or Graduate Courses
- 501 (304). **Analysis of the Old Testament: The Pentateuch and Historical Books.**
(3:3:0) F.S.Su. Meservy, Rasmussen, Rogers
- 502 (603). **Analysis of the Old Testament: Prophetic Books.** (2:2:0) F.
Meservy, Rasmussen, Rogers
- 503 (606). **Analysis of the Old Testament: Poetic and Wisdom Literature.**
(2:2:0) S. Meservy, Rasmussen, Rogers
- 511 (624). **Paul's Life and Letters.** (2:2:0) F.
Bentley, Patch, Ricks, Rogers, Sperry, Turner
- 512 (625). **The General Epistles and the Apocalypse.** (2:2:0) S.
Bentley, Patch, Ricks, Rogers, Sperry, Turner
- 513 (622). **New Testament Times.** (2:2:0) S.Su. Patch, Ricks, Sperry
- 527 (653). **History and Doctrines of the Pearl of Great Price.** (2:2:0) F.S.Su.
Andrus, Clark

Graduate Courses

- 601 (602). **History of the Hebrews.** (3:3:0) F.S.
Meservy, Rasmussen, Rogers, Sperry
- 604 (601). **The Literature of the Old Testament.** (2:2:0) F.S.
Meservy, Rasmussen, Rogers, Sperry
- 605 (604). **Canon and Text of the Old Testament.** (2:2:0) S. Staff
- 606 (605). **The Aprocrypha and Pseudepigrapha.** (2:2:0) S.Su. Nibley
- 607 (619). **Religion of the Old Testament.** (2:2:0) F.Su. Staff
- 608 (607). **Cultural and Religious Patterns of the Ancient Near East.** (2:2:0)
S.Su. Sperry
- 610 (621). **Early Christian Literature.** (2:2:0) F.Su. Staff
- 611 (626). **Formation of the New Testament: Text and Canon.** (2:2:0) S.Su.
Patch, Ricks, Sperry
- 612 (627). **Textual Criticism of the New Testament.** (2:2:0) S.Su. Staff
- 621 (524). **Analysis of the Book of Mormon.** (3:3:0) F.S.Su.
Ludlow, Ricks, Sperry
- 624 (652). **Analysis of the Doctrine and Covenants.** (2:2:0) F.S.Su.
Andrus, Doxey
- 627 (592). **Seminar: Pearl of Great Price.** (2:2:0) F.S.Su. Andrus, Clark
- 699 (699). **Thesis for Master's Degree.** (1-4:Arr.:Arr.) F.S.Su. Staff
- 709 (590) **Seminar: Old Testament.** (2:2:0) F.S.Su. Staff
- 710 (649). **Seminar: New Testament.** (2:2:0) F.S.Su. Staff

- 711 (641). Readings in Greek: The Gospel and Acts. (3:3:0) F.** Prerequisite: ability to pass departmental examination in Greek. Staff
- 712 (642). Readings in Greek: Paul's Letters. (3:3:0) S.** Prerequisite: ability to pass departmental examination in Greek. Staff
- 713 (643). Readings in Greek: General Epistles and the Apocalypse. (3:3:0) S.Su.** Prerequisite: ability to pass departmental examination in Greek. Staff
- 721 (651). Seminar: Book of Mormon. (2:2:0) F.S.Su.** Ludlow, Ricks, Sperry
- 724 (591). Seminar: Doctrine and Covenants. (2:2:0) F.S.Su.** Andrus, Doxey
- 728 (659). Readings in Modern Scripture. (1-2:Arr.:Arr.) F.S.Su.** Staff
- 799 (799). Doctoral Dissertation. (Arr.) F.S.Su.** Staff

Professors: Sperry (chairman, 122 S), Nibley.

Assistant

Professor: Rasmussen.

Instructor: Meservy.

Biblical Languages



An undergraduate major or minor is **not** offered in this department. A graduate major or minor is offered at the master's level but not at the doctoral level as yet. (See section on the College of Religious Instruction regarding religion credit for these courses.)

Advanced Undergraduate or Graduate Courses

591, 592 (511, 512, 513). Biblical Hebrew. (5:5:0 ea.) F.S.Su. No prerequisite. Meservy, Rasmussen

A beginning course in the classical Hebrew of the Old Testament. Valuable for students and teachers as a tool for interpreting and appreciating the Bible.

593, 594 (514, 515, 516). Advanced Hebrew Grammar and Selected Readings. (3:3:0 ea.) F.S.Su. Prerequisite: Biblical Languages 591, 592 or equivalent acquaintance with Hebrew. Meservy, Rasmussen

Graduate Courses

690 (601, 602). Readings in the Hebrew Old Testament. (3:3:0) F. Prerequisite: two years of Hebrew or consent of instructor.

Meservy, Rasmussen, Sperry

691 (602, 603). Readings in Hebrew. (3:3:0) S. Prerequisite: Hebrew 690.

Meservy, Rasmussen

693, 694 (607, 608, 609). Biblical Aramaic and the Targums. (2:2:0 ea.) F.S. Prerequisite: at least one year of Biblical Hebrew. Meservy, Sperry

699 (699). Thesis for Master's Degree. (Arr.) Arr.

Staff

791 (611, 612, 613). Syriac. (5:5:0) Arr. Prerequisite: one year Biblical Hebrew or one year Aramaic.

Meservy, Sperry

792 (614, 615, 616). Syriac. (3:3:0) Arr. Prerequisite: Biblical Languages 791.

Meservy, Sperry

793, 794 (621, 622, 623). Akkadian. (2:2:0 ea.) Arr. Prerequisite: two years Biblical Hebrew.

Meservy, Sperry

795, 796 (625, 626, 627). Egyptian. (2:2:0 ea.) Arr. Prerequisite: two years Biblical Hebrew or consent of instructor.

Sperry

797, 798 (New). Ugaritic. (3:3:0) (2:2:0) F.S. Prerequisite: two years Biblical Hebrew. Meservy

Study of the alphabet, vocabulary, and grammar of the language of the Ras Shamra tablets. Valuable for its parallels to Biblical Hebrew.

For other language courses pertinent to scriptural studies, see the offerings of the Language Department of the College of Humanities and Social Sciences. Such courses as Classical Greek, the Greek New Testament, Classical Latin, the Latin Fathers, Arabic, and First Year Hebrew of the modern, spoken variety are offered.

Professor: Harrison.
Associate McKnight (chairman, 233 B),
Professors: Christensen, Stutz*.
Assistant
Professors: Moore, Murdock.
Instructor: Van Cott.

Botany



A major in botany is designed to prepare a student for a variety of professional careers in secondary schools or institutions of higher learning, in governmental service, in industry, or in research institutions. Botanists are employed in positions such as teacher, conservationist, range manager, geneticist, plant breeder, plant physiologist, mycologist, plant quarantine inspector, taxonomist, museum curator, park ranger, park naturalist, and in forestry research. Students also find a major in botany to be a useful adjunct to other professional careers. Many people find this to be a field of great interest for cultural and aesthetic values and for recreational and avocational pursuits.

Administration of the range management program is under the direction of the Department of Botany.

Students majoring in botany (except those planning to qualify for biology teaching or range management) should take the following courses:

Botany 101, 110, 201, 321, 331, 335, 376, 390, 440, 450, 490.

Majors are required also to gain some field experience in botany. This requirement may be satisfied by taking Botany 455, by attendance at an approved summer biological station or field camp, or by appropriate summer field work.

Recommended supporting courses:

Zoology 105, 164, 212 or 230, 213; Bacteriology 321 or 331 and 332, or 333; Agronomy 141, 303; Geology 101; Mathematics 101, 111; Chemistry 111, 112, 113, 221; Physics 201, 202.

Students majoring in botany and planning to teach biology in secondary schools should take the following courses:

Botany 101, 110, 201, 205, 321, 331, 376, 390 or 490, 440, 450; Bacteriology 321 or 331 and 332 or 333; Zoology 105, 164, 230, 343 or 345, 372, and 3 hours of electives in zoology.

Recommended supporting courses:

Agronomy 141; Geology 101; Mathematics 101, 111; Chemistry 105 and 106, or 111 and 112; Botany 335, 455, 460.

Students minoring in botany and planning to teach in the secondary schools

Botany 101, 105, 110, 201, and six hours selected from 205, 321, 376, 440, 450, 460.

should take the following courses:

Range Management and Related Fields of Study

Students planning to qualify for positions in range management should take the courses listed below:

Agronomy 141; Animal Husbandry 207; Botany 101, 110, 440, 450, 462. Three of the following courses: Agricultural Economics 350; Agronomy 455; Botany 455, 465, 466, 561, 615, 655, 750. Two of the following courses: Agricultural Economics 410; Animal Husbandry 153, 340, 355. Two of the following courses: Agronomy 303, 440; Botany 752; Zoology 105, 164, 230, 551.

Recommended supporting courses:

Agricultural Economics 101; Chemistry 111, 112; Geography 401; Geology 101, 102; Mathematics 111; Statistics 221.

Students majoring in botany who plan to qualify for range management positions should fill the requirements outlined above in addition to taking Botany 105, 376, 390, 455, and 490. Botany majors must have a minimum of 28 credit hours in botany.

Lower Division Courses

- 101 (101). **Plant Biology.** (3:2:3) F.S. (G-BS) Staff
Prerequisite to further work in the plant sciences. Recommended for the non-science student. Structure, physiology, and reproduction of the higher plants and their relationship to other organisms, including man.
- 105 (112). **Plant Kingdom.** (3:2:3) F.S. (G-BS) McKnight
Survey of the plant kingdom, including the morphology of representative species.
- 110 (123). **Plant Classification.** (3:2:3) S. Home Study also. Harrison
General principles of taxonomy and use of manuals with emphasis on classification of local flora.
- 176 (145). **Heredity.** (3:3:0) F.S. Home Study also. (G-BS) Prerequisite: Botany 101 or Zoology 105. Stutz
A study of the principles of genetics and their applications to other sciences and to human welfare.
- 201 (New). **Microscopes and Their Uses.** (1:0:3) F. Stutz
A study of various types of microscopes and their effective uses.
- 205 (230). **Field Botany.** (2:1:3) F.S. (G-BS) Staff
Names and characteristics of common trees and shrubs and their uses as ornamentals and in commerce.

Upper Division Courses

- 321 (351). **Plant Anatomy.** (2:0:6) S. Prerequisite: Botany 101 or Zoology 105. Christensen
Origin, development, and maturation of the structures of vascular plants.
- 331 (531, 543, 546). **Morphology of Green Plants.** (5:3:6) S. Prerequisites: Botany 101 or Zoology 105, and Botany 201 or consent of instructor. McKnight
Study of the structures, relationships, and life histories of representatives of the major plant groups, excluding the fungi.
- 335 (535). **Mycology.** (3:1:6) F. Prerequisites: Botany 101 or Zoology 105, and Botany 201 or consent of instructor. McKnight
Study of the structure, relationships, and life histories of representative fungi.

- 376 (345). **Genetics.** (3:3:0) F. (G-BS) Prerequisite: Botany 101 or Zoology 105. Stutz
A study of the principles of genetics.
- 377 (346). **Genetics Lab.** (1:0:3) F. Prerequisite: previous or concurrent registration in Botany 376 or equivalent. Stutz
Laboratory and field exercises in genetics.
- 390 (390, 391). **Seminar—Junior.** (1:1:0) F. Required of all majors in their junior year. Staff
Presentation and discussion of topics from the current literature of the field.
- 396 (393). **Seminar in Plant Ecology and Range Management.** (1:1:0) S. Staff
- 440 (410). **Plant Physiology.** (4:3:3) S. Prerequisites: Botany 101 and Chemistry 111. Harrison
Water relations, mineral nutrition, synthesis of foods, digestion, and growth in plants.
- 450 (430). **Plant Ecology.** (3:2:3) F. (Field trips to be arranged) (G-BS) Prerequisite: Botany 101 or Zoology 105. Christensen
Relation of plants to their environment, their adaptations to factors of soil and climate, and their influence on each other.
- 455 (445, 446). **Field Ecology.** (1-3:1:3-9) S.Su. (Includes one field trip of about one week's duration.) Prerequisite: consent of instructor. Murdock
Field studies of plants and plant communities and the environmental conditions with which they are associated.
- 460 (451). **Conservation of Natural Resources.** (2:2:0) S. (G-BS) Home Study also. Christensen, Murdock
Need for, and means of providing, conservation of renewable natural resources.
- 462 (462). **Range Management.** (3:2:3) S. Prerequisite: Botany 450. Staff
Problems associated with the management, grazing, revegetation, and maintenance of range lands.
- 465 (455). **Range Forage.** (2:0:6) F. Prerequisite: Botany 110. Christensen
Characteristics, distribution, and value of the more important forage plants of the western range.
- 466 (465). **Range Revegetation and Improvement.** (3:2:3) F. Prerequisite: Botany 450. Christensen
Artificial and natural revegetation and the use and development of fencing, watering, and other range facilities.
- 480 (470). **Plant Pathology.** (3:2:3) F. Prerequisite: Botany 101 or Zoology 105. Stutz
Important diseases of cultivated plants, their identification, causes, and methods of control.
- 490 (490, 491). **Seminar—Senior.** (1:1:0) F. Required of all majors in their senior year. Staff
Presentation and discussion of topics from current literature of the field.
- 493 (393). **Seminar in Range Management.** (1:1:0) F. (Does not take the place of 390) Staff
Presentation and discussion of topics from current literature of the field.
- 496 (396). **Special Problems in Range Management.** (1-3:0:3-9) F.S. Staff
- 498 (495, 496). **Special Problems.** (1-3:0:3-9) F.S. Staff

- 501 (175). **Histological Technique.** (2:0:6) F. Prerequisites: Botany 101 or Zoology 105, and Botany 201. Moore
Techniques of preparing plant tissues for microscopic examination.
- 510 (604). **Advanced Taxonomy.** (3:1:6) S.Su. Prerequisites: Botany 110 and 176 or consent of instructor. Moore
- 525 (355). **General Cytology.** (3:2:3) F. Prerequisite: Botany 101 or Zoology 105. Moore
Study of the organization and functions of protoplasm.
- 561 (571). **Watershed Management.** (2:2:0) S. (Field trips to be arranged) Murdock
Influence of vegetation on water supplies, floods, soil erosion, and runoff. Methods in managing and rehabilitating damaged watersheds.
- 591 (590, 591). **Seminar.** (1:1:0) F. Staff
- 598 (496). **Special Problems.** (1-3:0:3-9) F.S. Staff

Graduate Courses

- 615 (615). **Agrostology: Taxonomy and Ecology of Grasses.** (2:1:5) F. Prerequisite: Botany 110; recommended prerequisite: Botany 176. Harrison
- 634 (New). **Morphogenesis.** (3:2:3) F. Prerequisite: training in the following areas is recommended: taxonomy, anatomy, and physiology or biochemistry. Moore
The problem of development of form in organisms, with emphasis upon plants.
- 635 (665, 668). **Advanced Mycology.** (4:2:6) S. Prerequisites: Botany 101 or Zoology 105, and Botany 335. McKnight
Consideration of current topics in physiology, morphology, and taxonomy of fungi.
- 638 (683). **Fleshy Fungi.** (2:1:3) Su. Prerequisite: a laboratory course in bacteriology, botany, or zoology. McKnight
The names, characteristics, and distribution of the edible and poisonous mushrooms, pore fungi, and puffballs of Utah.
- 639 (New). **Paleobotany.** (3:2:3) S. Prerequisite: Botany 101 or Zoology 105. Staff
- 655 (742). **Field Ecology.** (1-3:Arr.:Arr.) S.Su. (Extended field trip) Prerequisite: consent of instructor. Murdock
- 676 (625). **Cytogenetics.** (3:3:0) F. Prerequisite: Botany 525. Stutz
- 678 (650). **Speciation.** (3:3:0) S. Prerequisite: genetics or consent of instructor. Staff
- 697, 698 (690, 691, 692). **Special Problems.** (1-3:0:3-9) F.S. Staff
- 699 (699). **Thesis for Master's Degree.** (1-4:0:3-12) F.S. Staff
- 740 (706). **Advanced Plant Physiology.** (3:2:3) S. Prerequisites: Botany 440, 450. Harrison
Current topics of interest such as photosynthesis, respiration, flowering responses, and regulation and control of growth.
- 742 (712). **Plant Nutrition and Growth.** (3:2:3) F. Prerequisites: Botany 440, Chemistry 111, 112; recommended prerequisite: organic chemistry. Harrison
- 750 (733). **Grassland and Desert Ecology.** (3:3:0) S. Prerequisite: consent of instructor. Christensen, Murdock
- 752 (735). **Forest Ecology.** (3:3:0) F. Prerequisite: consent of instructor. Christensen, Murdock
- 760 (754). **Conservation of Natural Resources.** (1-3:1-3:0-3) F. Prerequisite: consent of instructor. Christensen, Murdock

Professor: Christensen.

Associate

Professors: Croft, Peterson.

Assistant
Professors: Crandall (chairman), Bell, Polson, Stansfield, Taylor.

Instructors: DeMille, Guymon, Herde, Swensen, Waters.

Business Education and Office Management



Business Education

The program in business education is planned for those who desire to prepare for the teaching of business subjects in high schools. This can be done concurrently with preparation for a secretarial or allied occupation. Both men and women who complete requirements for teaching and office occupations find excellent opportunities in either area.

A series of graduate courses is provided for the student who is working on a master's program, or for teachers who desire to fulfill state recertification requirements.

Office Management

There are three separate programs in this division. The first provides a broad cultural and business-core foundation with emphasis in office administration. The second provides a broad foundation with concentration directed toward the function of an executive secretarial assistant. The third program is designed to satisfy the interests and needs of students completing a two-year program in business technology.

Business Education Major

See College of Education section of this catalog for professional education requirements and requirements for a teaching major or minor.

Office Administration

**Semester
Credits**

College of Business Foundation Courses Required:

Accounting 201 or 211, Principles of Accounting	5
Economics 101 or 111, Economics	3
Economics 274, Economic and Financial History of U.S.	3
Business Management 342, Business Law	3
Business Management 347, Marketing	3
Business Management 348, Financial Administration, or	
Economics 453, Money and Banking	3

Statistics 131, Elementary Mathematics of Business	2
Statistics 231, Mathematics and Statistics for Business	3

Office Management Department Requirements:

Office Management 203, Production Typing	2
Office Management 204, Adv. Production Techniques in Typing	2
Office Management 206, Calculating Machines	2
Office Management 220, Business Communication	3
Office Management 305, Office Organization and Management	3
Office Management 320, Report and Business Writing	3
Office Management 325, Org. and Dictation of Bus. Corres.	2
Office Management 370, Records Control and Office Machines	3
Office Management 480, Case Studies in Office Management	2
Office Management 485 or 486, Lectures in Office Administration	1
Accounting 255, Basic Concepts of Data Processing	2
Business Management 480 or 481, Executive Lectures	1

Secretarial Procedures

College of Business Foundation Courses Required:

Accounting 201 or 211, Principles of Accounting	5
Economics 101 or 111, Economics	3
Economics 274, Economic and Financial History of U.S.	3
Business Management 342, Business Law	3
Business Management 347, Marketing	3
Business Management 348, Financial Administration, or	
Economics 453, Money and Banking	3
Statistics 131, Elementary Mathematics of Business	2
Statistics 231, Mathematics and Statistics for Business	3

Office Management Department Requirements:

Office Management 203, Production Typing	2
Office Management 204, Adv. Production Techniques in Typing	2
Office Management 206, Calculating Machines	2
Office Management 220, Business Communication	3
Office Management 320, Report and Business Writing	3
Office Management 312, Transcription and Speedbuilding	4
Office Management 313, Expert Shorthand	4
Office Management 475, Procedures for Executive Secretaries	5
Office Management 485 or 486, Lectures in Office Administration	1
Business Management 480 or 481, Executive Lectures	1

Business Technology

(Two-year program)

See the Technical and Semi-Professional Institute section of this catalog for general education requirements.

College of Business Courses Required:

Office Management 101, Fundamentals of Typing (or equivalent)	2
Office Management 203, Production Typing	2
Office Management 204, Adv. Production Techniques in Typing	2
Office Management 206, Calculating Machines	2
Office Management 220, Business Communication	3
Office Management 111, Elementary Shorthand (or equivalent)	4
Office Management 112, Intermediate Shorthand (or equivalent)	4
Office Management 311, Advanced Shorthand	4
Office Management 312, Transcription and Speedbuilding	4
Office Management 370, Records Control and Office Machines	3
Accounting 201 or 211, Principles of Accounting	5

Economics 101 or 111, Principles of Economics	3
Business Management 342, Business Law	3

BUSINESS EDUCATION**Upper Division Course**

- 468 (468). **Fundamentals of Business Education.** (2:2:0) S. Home Study also. Staff
 A course designed for an understanding of the fundamentals of business education.

OFFICE MANAGEMENT**Lower Division Courses**

- 101 (101). **Fundamentals of Typewriting.** (2:3:2) F.S.Su. Staff
 Mastery of the keyboard and development of basic skills. Students with high school credit in typewriting are not permitted to take this course for college credit.
- 111 (111). **Elementary Shorthand.** (4:5:0) F.S. Staff
 Study of the fundamentals of shorthand with emphasis on developing fluency in reading and writing shorthand. Students with previous courses in Gregg shorthand are not permitted to take this course for college credit.
- 112 (112, 113). **Intermediate Shorthand.** (4:5:1) F.S.Su. Staff
 Development of shorthand writing and control, beginning with 60 words per minute, with the objective of developing a rate of 80 to 100 words per minute for 3 minutes on unfamiliar material.
- 203 (102, 103). **Speedbuilding in Production Typewriting.** (2:3:2) F.S.Su. Staff
 Intensive drills with emphasis on measurement of speed and control in the production of manuscripts, outlines, minutes, tabulations, letter writing, rough drafts, and legal instruments.
- 204 (103, 104). **Advanced Production Techniques in Typewriting.** (2:3:2) F.S. Staff
 Su. Application of advanced production techniques to practical business problems including statistical reports, office projects, editing, and composition.
- 206 (106). **Calculating and Posting Machines.** (2:3:2) F.S.Su. Staff
 Instruction and practice in the operation of adding machines, key-driven calculators, rotary calculators, printing calculators, and posting machines for solving practical business problems.
- 220 (220, 275). **Business Communication.** (3:3:0) F.S.Su. Staff
 Study in current means of communication; experience in the composition of business correspondence.
- 305 (305). **Principles and Methods for Analyzing Office Operations.** (3:5:0) F.S. Staff
 Introduction to problems of office management, tools, and methods of problem solution. Areas of concentration include office standards and quality control, job analysis and work simplification, time studies and automation in office operations.
- 311 (113, 214). **Advanced Shorthand.** (4:5:1) F.S.Su. Staff
 Places emphasis on rapidly transcribing mailable letters. Upon entering this course, students should be able to take dictation at 80 words per minute, and typewrite at 50 words per minute.
- 312 (311, 312). **Transcription and Speedbuilding.** (4:5:1) F.S. Staff
 Places emphasis on accurate and rapid shorthand production. For students who write 100 words per minute and who desire to increase their speed to 120 words per minute.

- 313 (312, 313). Expert Shorthand.** (4:5:1) F. Staff
Expert shorthand speed course for students writing above 120 words per minute in making reports of committee meetings, board of directors' meetings or conferences. Includes specialized vocabulary, testimony dictation, and Congressional Record material.
- 320 (215, 320). Report and Business Writing.** (3:3:0) F.S. Staff
Intensive experience in communicating business analyses and results of fact-finding procedures.
- 325 (325). Organization and Dictation of Business Correspondence.** (2:2:0) S. Staff
Practical experience in giving dictation of office correspondence and reports. Includes elements of thought processes and organization in preparing to give dictation. Machine dictation equipment is used.
- 370 (275, 470). Records Control and Office Machines.** (3:3:3) F.S. Staff
A course dealing with fundamentals of filing, machine transcription, duplicating machines, other office equipment, supplies, and procedures.
- 418 (418). Secretarial Review.** (2:3:0) S. Staff
Intensive concentrated skills course for last-semester seniors and others desiring to pass Civil Service, F.B.I., merit, and other examinations immediately preceding employment.
- 475 (215, 275, 475). Procedures for Executive Secretaries.** (5:5:5) F.S. Pre-requisites: Office Management 312; shorthand speed of 100 wpm; typing speed of 60 wpm. Staff
- 480 (480). Case Studies in Office Management.** (2:2:1) F.S. Staff
Extensive use of cases in office management. Student analysis, group discussions, and written reports will form the principal basis for conduct of this course.
- 485, 486 (485, 486). Lectures on Office Administration.** (1:1:0 ea.) S. Staff
485 given in odd-numbered years; 486 given in even-numbered years.
- 630 (630). Current Developments Influencing the Content of Business Education.** (2:2:0) F. Staff
A presentation of recent technological developments, such as automation in business, and an analysis of the content and procedures of business education.
- 635 (635). Recent Changes in the Materials and Methods of Business Education.** (2:2:0) S. Staff
Investigation of recent developments in materials and methods in the teaching of business subjects in the secondary school and junior college. Open to those who have had teaching experience.
- 640 (640). Trends of Thought in Business Education.** (2:2:0) S. Staff
Fundamental ideas that have shaped the business curriculum in the United States and basic issues that have affected purposes, trends, and control of business education in public and private institutions.
- 665 (665). Practicum in Business Education.** (2:2:0) F. Staff
The planning and development of practical and creative projects in the field of business education, individually or in groups. Experienced teachers will be permitted to use actual school problems and projects as the nucleus for the term's work.
- 670 (670). Cooperative Business Experience Workshop.** (4:4:4) Su. Staff
Through the cooperation of business and industry in Utah, Salt Lake, Davis, and Weber Counties, this work-education program is offered to graduate business teachers. This blending of business-community experience and campus classwork strengthens in the teacher an awareness of the benefits of free enterprise and reveals business problems and practices related to teaching business subjects.

675	(675). Business Education Workshop. (2:2:0) Su. A series of clinics in selected business subjects.	Staff
690	(New). Seminar. (2:2:0) F.S.	Staff
694	(New). Independent Readings. (1-4:1-4:0) F.S.Su.	Staff
698	(New). Field Project for Master's Degree. (1-4:1-4:0) F.S.Su.	Staff
699	(New). Thesis for Master's Degree. (1-4:0:0) F.S.Su.	Staff

The following courses also count in Business Education and Office Management:

Acctg. 255 (316). Basic Concepts of Data Processing. (2:2:1) F.S.Su.

Acctg. 555 (555). Advanced Data Processing. (3:3:0) S.

Bus. Mgmt. 420 (420). Human Relations in Adm. I. (3:3:0) F.S.

Bus. Mgmt. 480, 481 (480, 481). Executive Lectures. (1:1:0)

Business Management



Professors: Boyle (emeritus), Clark, Taylor.

**Associate
Professor:** Oaks (chairman).

**Assistant
Professors:** Covey, Davis, Faux, Wilson.

Instructors: Daines, Geddes.

The primary objective of this department is to prepare students for professional careers in business management. The courses of study and methods of instruction are designed to develop personal qualities in each student which will enable him to realize his full potentialities as an effective administrator. Stress is placed upon the development of such qualities as the art of decision making, facility in the use of analytical tools and techniques, and the ability to communicate effectively.

Students planning to major in this department should complete, in the time sequence indicated, the following general education, college, and departmental core requirements. After completing these general education and core requirements, a student can elect any one of four different concentrations—Business Administration, Finance and Banking, Industrial Management, or Marketing.

*The three departments of Finance and Banking, Industrial Management, and Marketing have been combined to form a single department of Business Management.

GENERAL EDUCATION

(Freshman Through Senior Years)

See "Requirements for Graduation" section of this catalog for courses needed to satisfy the General Education requirements of the University. A detailed discussion of courses which can be taken in each required area is listed therein.

COLLEGE AND DEPARTMENTAL CORE

Freshman and Sophomore Years		Hours
Economics 111, 112, Economic Principles and Problems	5	
Statistics 131, Elementary Mathematics of Business	2	
Statistics 221, Principles of Statistics	2	
Statistics 231, Mathematics and Statistics for Business	3	
Accounting 211, Elementary Accounting	5	
Bus. Mgmt. 303, Managerial Accounting and Control	3	
Junior Year		Hours
Economics 345, Intermediate Economic Theory	3	

Bus. Mgt. 340, Industrial Organization and Management	3
Bus. Mgt. 342, An Introduction to Commercial Law	3
Bus. Mgt. 347, Principles of Marketing	3
Bus. Mgt. 348, Financial Administration	3

Senior Year Hours

Bus. Mgt. 420, Human Relations in Administration I	3
Bus. Mgt. 480 or 481, Executive Lectures	1

BUSINESS ADMINISTRATION CONCENTRATION

The business administration course is designed to integrate the various areas included in the department curriculum and consequently to give exceptional students a broad background in management training at the undergraduate level. Particular emphasis is placed upon the use of the case method.

Students who desire to adopt this concentration must have written approval from the chairman of the department. Requirements for concentration in this area include Business Management 588 and 589 and at least 12 hours from at least two of the following three areas. Business Management 521 (Human Relations II) can also be included as part of the 12 hours, but will not be counted as one of the two required areas.

Finance and Banking Area:

Hours

Bus. Mgt. 451, Investments	3
Bus. Mgt. 552, Advanced Corporation Finance	3
Bus. Mgt. 571, Management of Financial Institutions	3
Bus. Mgt. 574, Investment Management	3
Bus. Mgt. 567, Real Estate Administration	2

Industrial Management Area:

Hours

Bus. Mgt. 569, Personnel Management	3
Bus. Mgt. 561 and 562, Problems in Production	10
Bus. Mgt. 573, Management of Production Facilities	2

Marketing Area:

Hours

Bus. Mgt. 579, Problems in Marketing	3
Bus. Mgt. 555, Problems in Advertising	3
Bus. Mgt. 556, Problems in Retail Store Management	3
Bus. Mgt. 557, Problems in Sales Management	3

FINANCE AND BANKING CONCENTRATION

The course work offered in this area is designed, first, to familiarize business students with the elements of financial planning and, second, to provide specialized work for those who seek positions of management and executive responsibility in financial institutions or the financial departments of business firms. The requirements are flexible enough to allow some specialization directed toward commercial banking, investment banking, business finance, insurance, real estate, investment management, or financial counseling.

Students electing to concentrate in this area of the Department of Business Management are required to take the three courses listed under Group A and any six hours of credit from the courses listed under Group B.

Group A

Hours

Bus. Mgt. 450, General Insurance	3
Bus. Mgt. 451, Investments	3
Bus. Mgt. 571, Management of Financial Institutions	3

Group B	Hours
Economics 453, Money and Banking	3
Economics 454, Real Estate	3
Bus. Mgt. 552, Advanced Corporation Finance	3
Bus. Mgt. 565, Life Insurance	2
Bus. Mgt. 567, Real Estate Administration	2
Bus. Mgt. 574, Investment Management	3

INDUSTRIAL MANAGEMENT CONCENTRATION

The industrial management concentration provides training for positions in industrial engineering, production control, purchasing, industrial relations, and the operating departments of industrial enterprises. In addition, it facilitates entry into executive trainee programs, the active management of small business, or the continuation of training in a graduate school of business.

Students electing a concentration in industrial management are required to take the basic courses in Group A and a minimum of six semester hours selected from Group B.

Group A	Hours
Drawing 102, Blueprint Reading (to be taken during junior year)	2
Bus. Mgt. 561, Problems in Production—Manufacturing Processes	5
Bus. Mgt. 562, Problems in Production—Manpower Management and Production	5
Bus. Mgt. 588, 589, Problems in Business Management	6

Group B	Hours
Bus. Mgt. 573, Management of Production Facilities	2
Bus. Mgt. 575, Advanced Production Methods	2
Bus. Mgt. 585, Industry Analysis	3
Bus. Mgt. 591, Research and Diagnosis of Business Problems	2
Bus. Mgt. 569, Personnel Management	3
Accounting 556, Electronic Computer Programming	3
Statistics 332, Advanced Mathematics for Economists and Statisticians	2
Statistics 333, Elementary Operations Analysis	2
Statistics 432, Industrial and Engineering Statistics	2
Statistics 532, Advanced Business Statistics	2
Economics 461, Labor Problems and Labor Relations	2
Economics 562, Collective Bargaining and Industrial Relations	2
Economics 563, Labor Law	2

MARKETING CONCENTRATION

The marketing course is designed to prepare students for positions of management and executive responsibility in the fields of industrial marketing, retailing, wholesaling, advertising, sales management, and market research. Requirements for a concentration in this area include three of the four courses in Group A, Business Management 579 (Problems in Marketing), and at least one course in Group B.

Group A	Hours
Bus. Mgt. 455, Advertising	3
Bus. Mgt. 456, Retailing	3
Bus. Mgt. 457, Wholesaling and Industrial Marketing	3
Bus. Mgt. 458, Market Research	3

Group B	Hours
Bus. Mgt. 555, Problems in Advertising	3
Bus. Mgt. 556, Problems in Retail Store Management	3
Bus. Mgt. 557, Problems in Sales Management	3

MINOR

Students electing to do so may count their required course work in Accounting, Statistics, and Economics as a composite minor.

Lower Division Course

- 205 (205). **Personal Finance.** (2:2:0) F.S. Staff
A practical course in money management with particular reference to utilization of savings.

Upper Division Courses

- 303 (203). **Managerial Control.** (3:3:0) F.S. Prerequisites: Accounting 211 and Statistics 231 or consent of instructor. Staff
Emphasizes the understanding and use of accounting and other quantitative data for decision-making purposes.
- 315 (315). **Principles of Salesmanship.** (2:2:0) F.S. Home Study also. Staff
A critical review of techniques, with emphasis upon the opportunities available in professional salesmanship.
- 340 (340). **Industrial Organization and Management.** (3:3:0) F.S. Prerequisite: Statistics 331 or Mathematics 111. Staff
Introduction to the producing function of business, plant location and layout, machinery and equipment utilization, employee-employer relations, and industrial control.
- 342 (342). **An Introduction to Commercial Law.** (3:3:0) F.S. Home Study also. Staff
Survey of modern American business law as it applies to everyday business practices.
- 347 (347). **Principles of Marketing.** (3:3:0) F.S. Staff
Analytical survey of institutions, functions, problems, and policies in the distribution of goods from producer to consumer. Includes treatment of pricing and governmental regulation.
- 348 (348). **Financial Administration.** (3:3:0) F.S. Prerequisites: Accounting 211 and Statistics 131. Staff
Introduction to principles governing financial administration of business enterprises.
- 367 (367). **Industrial Purchasing.** (2:2:0) S. Staff
Analysis of techniques involved in procurement of materials, equipment, and supplies. Attention also given to purchasing associations, legal aspects of purchasing, and traffic as related to purchasing.
- 420 (420). **Human Relations in Administration I.** (3:3:0) F.S. Recommended for seniors only. Staff
Case problems involving communication processes, face to face relationships, and the securing of cooperation are discussed to develop a way of understanding self and others.
- 450 (450). **General Insurance.** (3:3:0) F. Staff
Life, health, accident, fire, property, and liability insurance and principles of risk-bearing as they apply to each classification of the insurance field.

- 451 (451). Investments.** (3:3:0) F.S. Prerequisite: Business Management 348 or equivalent. Staff
 Analysis of operating and financial characteristics of industrial, public utility, railroad, financial, and real estate enterprises; and various federal, state, and municipal bodies.
- 455 (455). Advertising.** (3:3:0) F.S. Prerequisite: Business Management 347. Staff
 Analysis of preparation, program, planning, media, budgeting, and research. Utilization by business emphasized, but attention also given to advertising institutions and to economic and social aspects.
- 456 (456). Retailing.** (3:3:0) F.S. Prerequisite: Business Management 347. Staff
 Survey of retail store operation from point of view of executive control, profit planning, merchandising, store location, layout, organization, policies, system, and coordination of store activities.
- 457 (457). Wholesaling and Industrial Marketing.** (3:3:0) F. Prerequisite: Business Management 347. Staff
 A study of principles, practices, and policies of business concerns engaged in movement of goods from manufacturer to retailer and from manufacturer to industrial user.
- 458 (458). Marketing Research.** (3:3:0) S. Prerequisite: Business Management 347. Staff
 Uses, methods, and techniques of marketing research.
- 480, 481 (480, 481). Executive Lectures.** (1:2:0) S. Staff
 Top executives from throughout the nation visit the campus and meet students in a series of lectures dealing with subjects significant to executive leadership.

Advanced Undergraduate or Graduate Courses

- 521 (521). Human Relations in Administration II.** (3:3:0) S. Prerequisite: Business Management 420 or consent of instructor. Staff
 An illuminating conceptual framework for understanding group processes is developed to identify factors contributing to understanding, growth, and cooperation in group work and leadership.
- 552 (552). Advanced Corporation Finance.** (3:3:0) S. Prerequisite: Business Management 348 or consent of instructor. Staff
 Financial problems connected with organization of corporations, underwriting, and sale of securities; management, expansion, and organization of those that are not successful.
- 555 (555). Problems in Advertising.** (3:3:0) F. Prerequisite: Business Management 455 or consent of instructor. Staff
 Problems in the use of advertising as a part of management's overall marketing strategy. Stresses planning, coordination, control, and evaluation of effectiveness.
- 556 (556). Problems in Retail Store Management.** (3:3:0) S. Prerequisite: Business Management 456 or consent of instructor. Staff
 Problems involved in policy formulation and implementation and in the coordination of store activities through the use of controls and standards.
- 557 (557). Problems in Sales Management.** (3:3:0) F.S. Prerequisites: Business Management 303 and 347 or consent of instructor. Staff
 Problems in sales methods, sales organization, management of sales force (selection, training, compensation, and supervision), and sales planning and control.

- 558, 559 (558, 559). Advanced Problems in Marketing Research.** (1-3:Arr.: Arr. ea.) F.S. Prerequisites: Business Management 458 and consent of instructor. Staff
Advanced methods of research and their application to marketing problems.
- 561 (560, 561). Problems in Production—Manufacturing Processes.** (5:4:2) F. Prerequisites: Business Management 340, Drawing 102, and senior or graduate standing in the department. Others by approval of instructor. Wilson
Part one of a one-year course dealing with problems encountered by production personnel. Considers: (1) the materials and manufacturing processes commonly used in industry, (2) process analysis as applied to work simplification and plant layout. Utilizes business cases, films, and field trips.
- 562 (561, 562). Problems in Production—Manpower Management and Production Control.** (5:6:0) S. Prerequisite: Business Management 561. Wilson
Part two of a one-year series. Deals with time study, job evaluation, wage administration, manpower planning, and production control.
- 565 (565). Life Insurance.** (2:2:0) S. Prerequisite: Business Management 450 or consent of instructor. Staff
Advanced study of the nature and functions of life insurance and its application to personal and business needs.
- 566 (566). Property and Casualty Insurance.** (2:2:0) S. Prerequisite: Business Management 450 or consent of instructor. Staff
Advanced study of the functions of fire and marine insurance, casualty insurance, and corporate building.
- 567 (567). Real Estate Administration.** (2:2:0) F. Prerequisite: Economics 454. Staff
Mechanisms of real estate finance, principles of mortgage risk analysis, role of government agencies, and problems of property development.
- 569 (569). Personnel Management.** (3:3:0) S. Prerequisites: Economics 345, Business Management 420, or permission of the instructor. Staff
Management of the personnel function: job evaluation, organization planning, employee selection, training, compensation, morale, labor relations, and management development. Method: case analysis and research projects.
- 571 (571). Management of Financial Institutions.** (3:3:0) S. Staff
Study of asset management of various types of financial institutions with special emphasis on loan policies and related problems.
- 573 (573). Management of Production Facilities.** (2:2:2) S. Prerequisites: Business Management 303 and 561. Wilson
The economics of equipment utilization and replacement, capital budgeting maintenance control, tools control, and systems and procedures analysis.
- 574 (574). Investment Management.** (3:3:0) S. Prerequisite: Business Management 451. Staff
Theory of investment management and its application formulation of investment policies for different types of investors.
- 575 (575). Advanced Production Methods.** (2:2:2) S. Prerequisite: Business Management 561. Wilson
Advanced methods work, automation, and the application of data processing to industrial operations.
- 576 (576). Industrial Planning and Forecasting.** (2:2:0) S. Prerequisite: departmental approval. Staff
Top management policy determination in the areas of production plan-

ning, planning of physical facilities, and organization planning as they are related to market and economic forecasts.

- 577 (577). Modern Corporate Problems.** (2:2:0) S. Staff
Problems arising from separation of ownership and control, changing theory of profits and property, changing methods of financing expansion and other current problems.
- 579 (579). Problems in Marketing.** (3:3:0) F.S. Prerequisite: Business Management 347. Staff
Analysis of problems in marketing management with particular emphasis upon integrating the various functional areas.
- 585 (585). Industry Analysis.** (3:3:0) S. Prerequisites: Business Management 561 and 588. Staff
Production characteristics of major industries. Large business units are studied in terms of sources of raw materials, production techniques, financial structure, degree of integration, stage of maturity, character of mechanization, government regulation, and possible future developments.
- 588, 589 (588, 589). Problems in Business Management.** (3:3:0) F.S. Limited to senior and graduate students in the College of Business. Staff
A one year integrating case course in which marketing, production, finance, control, economic, and human questions are considered simultaneously in developing realistic analyses, decisions, and plans of action. Extensive use of business cases requiring student analysis, group discussions, and written reports form the basis for the conduct of the course.
- 591 (591). Research and Diagnosis of Business Problems.** (1-2:Arr.:Arr.) S. Prerequisite: Business Management 588 or consent of instructor. Staff
Provides experience in the research and diagnosis phase of the case method. Includes preparation of cases from actual business situations.

Graduate Course

- 699 (699). Thesis for Master's Degree.** (1-4:Arr.:Arr.) F.S. Staff

These courses also count in Business Management:

Accounting 556. Electronic Computer Programming. (3:3:1)

Journalism 561. Public Relations. (2:2:0)

Statistics 432. Industrial and Engineering Statistics. (2:2:0)

Statistics 532. Advanced Business Statistics. (2:2:0)

B.E.O.M. 320. Business Writing and Reporting. (2:2:0)

Associate Professors: Barker, Brown, Pope*.
Assistant Professor: Christensen (chairman, 176 ELB).

Chemical Engineering Science



Chemical engineering is essentially the application of chemical reactions on an industrial scale. Chemical engineers engage in research, development, design, application, and sales in the chemical industries which include such diverse fields as chemicals, petroleum, atomic energy, textiles, rubber, metals, and foods. Students majoring in chemical engineering science may anticipate receiving, in addition to a comprehensive training in engineering, a thorough education in the fundamental physical sciences including physics, mathematics, and chemistry. This training will enable the student upon graduation to enter any of the numerous academic or industrial fields which are open to persons having this broad educational background.

Entrance Requirements

For both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences, see those sections of this catalog. Attention is called especially to the advisability of the student having completed three units of English and three units of high school mathematics, which should include trigonometry and intermediate algebra, in order to complete the prescribed curricula without loss of time. Students of superior ability and training, as indicated by entrance examination results and high school preparation in especially mathematics, chemistry, and English, may complete the prescribed program in approximately four years.

Grade Requirements

A student must have received an average grade of "C" or better in physics and calculus before being admitted as a regular third-year student in the department. A student who has not obtained this average may petition for special consideration. If he is admitted, it will be on a probationary basis subject to periodic review. If his work subsequently proves unsatisfactory, he will not be allowed to continue in this department.

A cumulative average grade of "C" or better must be maintained in all advanced mathematics, chemistry, and engineering subjects; otherwise the student is placed on a probationary status in the department.

Requirements for Major and Options

In order to obtain a degree in chemical engineering, the student must complete the program described below. A student can obtain a B.S. degree in chemistry at the end of the fourth year. This the student can accomplish by suitably rearranging the program specified below to fulfill the general educa-

tion requirements earlier, by completing the additional requirements in chemistry as listed in the section covering that department (beginning with quantitative analysis in the second year), and by declaring himself a chemistry major during the last semester of his fourth year. A tentative program showing the necessary course rearrangement is available from this department. Such a student will either have to attend summer school for one term in addition to the regular course work or spend more than five years to complete the prescribed program in chemical engineering.

Students who intend to enter the chemical industry in the fields of management or sales will be allowed by permission to substitute business and economics courses for some of the engineering and science courses indicated.

The following abbreviations are used: Ch.E. for Chemical Engineering, C.E. for Civil Engineering, E.E. for Electrical Engineering, and M.E. for Mechanical Engineering.

General Education Group Requirements

Engineering science students are subject to all of the general education requirements listed elsewhere in this catalog, with the following exceptions:

- (1) They may take the required course in health education any time during the first or second year. One credit of this should always be cross-referenced with the religion requirements.
- (2) When necessary, the biological science requirement may be reduced to four semester-hours instead of the six semester-hours specified. All of these may be obtained in a single course if desired.
- (3) Maximum advantage should be taken of the cross-referencing of religion with other courses.

Engineering students may register for 18 hours, exclusive of physical education and forum, in any one semester without obtaining special permission.

Normal Sequence of Courses for Majors

First Year	F	S			
Religion	2	2	Math. 315, 316	3	3
Chemistry 111, 112	4	3	C.E. 301, 302	3	3
English 111, 112	3	3	Ch.E. 378		3
Math. 111, 112	5	5		16-17	17-18
C.E. 101, 102	2	2	Fourth Year	F	S
Health		2	Religion		2
M. E.	1		Chemistry 461, 462	4	4
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Ch.E. 471, 472	3	3
	17 $\frac{1}{2}$	17 $\frac{1}{2}$	Ch.E. 473, 474	3	3
			Ch.E. 475 Lab		2
Second Year	F	S	C.E. 303	3	
Religion	2	2	Group Electives	5	3
Chemistry 113, 321	3	4		18	17
Physics 211, 213	5	5	Fifth Year	F	S
Math. 213, 214	5	5	Ch.E. 571	3	
C.E. 203	2		Ch.E. 476 Lab	2	
Ch.E. 271, 272	1	1	Ch.E. 574		3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Ch.E. 578	3	
	18 $\frac{1}{2}$	17 $\frac{1}{2}$	Ch.E. 579		3
			Ch.E. 599	2	1
Third Year	F	S	E.E. 301, 302	4	4
Religion	4	2	Group Electives	3	4
Chemistry 351, 352	4-5	4-5		17	15
Ch.E. 371, 372	2	2			

Lower Division Courses

- 271, 272 (271, 272, 273). **Chemical Process Principles.** (1:1:0) F.S. Barker
The unit processes of the inorganic and organic chemical industries; economic and technological aspects.

Upper Division Courses

- 371, 372 (371, 372, 373). **Chemical Engineering Fundamentals.** (2:2:0 ea.) F.S. Prerequisites: Physics 213 and Chemistry 113. Brown
Material, energy, and economic balances in chemical engineering.
- 378 (378, 379). **Engineering Materials.** (3:3:0) F.S. Prerequisite: Chemistry 106 or 113. Staff
A study of the principles which underlie the behavior and govern the properties of materials as related to their engineering applications.
- 471, 472 (471, 473). **Transport Processes.** (3:3:0) F.S. Prerequisites: Chemical Engineering 372, Math 315, and concurrent registration in Chemical Engineering 473 and Chemistry 461. Barker
The theories of momentum, heat, and mass transfer and the analogies among these transfer mechanisms.
- 473, 474 (472). **Chemical Engineering Thermodynamics.** (3:3:0) F.S. Prerequisites: Chemical Engineering 372, Math 315, and concurrent registration in Chemical Engineering 471 and Chemistry 461. Christensen
The first and second laws of thermodynamics and their applications to behavior of real fluids, potential functions, and phase and chemical equilibria.
- 475, 476 (575, 576, 577). **Chemical Engineering Laboratory.** (2:0:4 ea.) F.S. Prerequisites: Chemical Engineering 471, 473. Brown
A laboratory study of chemical engineering unit operations and processes.
- Advanced Undergraduate or Graduate Courses**
- 571 (571, 572, 573). **Chemical Engineering Unit Operations.** (3:3:0) F. Prerequisite: Chemical Engineering 471. Brown
A study of unit operations involving mass transfer and simultaneous heat mass and momentum transfer.
- 574 (573, 574). **Chemical Engineering Plant Design and Economics.** (3:3:0) S. Prerequisite: Chemical Engineering 571. Brown
Design of chemical engineering machinery, plants, and/or processes requiring the application of unit operations theory, chemical process principles, and economic analysis.
- 578 (579). **Chemical Engineering Kinetics.** (3:3:0) F. Prerequisites: Chemical Engineering 474, Chemistry 462. Christensen
The study of chemical kinetics and the application of these principles to the design of chemical process equipment.
- 579 (578). **Process Dynamics and Unit Processes.** (3:2:3) S. Prerequisite: Chemical Engineering 571. Barker
Measurement and control of process variables.
- 598 (598). **Special Problems.** (Arr.) F.S.Su. Staff
Registration by permission.
- 599 (599). **Chemical Engineering Undergraduate Thesis.** (1-2:Arr.:Arr.) F.S.Su. Staff

Registration by permission. Minimum of three and maximum of four semester hours required—1-2 hours per semester.

Chemistry

Professors: Anderson (chairman, 225 ESC), Broadbent, Bryner, Goates, Hall.

Associate Professors: Nicholes, Swensen.

Assistant Professors: Blackham, Gubler, Nelson, Peterson, Vernon.

Supt. of Laboratories and Stores: Butler, Hansen, Hawkins, Izatt, Snow, Wing, Meibos.



The objectives of the Department of Chemistry are (1) to provide sound, thorough training in chemistry for students choosing to major in this area; (2) to contribute significantly to the sum of basic research in chemistry; (3) to be of service to other departments of the University by offering courses in general education for all students and additional fundamental background training for majors in physical and engineering sciences, biological and agricultural sciences, nursing, family living, pre-medicine, pre-dentistry, and other areas.

The department offers four beginning programs in chemistry. The first three are terminal programs: Chemistry 100 for students interested in chemistry for a liberal arts education only; Chemistry 101 and 102 for students in nursing, home economics, and related fields; Chemistry 105 and 106 for engineering students (except chemical engineering students); and Chemistry 111, 112, 113 for chemistry and chemical engineering majors and all others desiring a strong foundation for subsequent extensive study of chemistry such as may be required in physics, biological sciences, medicine, dentistry, and the teaching of science.

A major in chemistry shall consist of a minimum of 42 hours credit, including credit in each of the following courses: Chemistry 111, 112, 113, 321, 322, 351, 352, 354 (2 hours), 355 (2 hours), 461, 462, 591. The remainder of the credit may be obtained by taking any other upper division chemistry courses. It is recommended, however, that the additional courses be taken from the following list: Chemistry 404, 504, 514, 551, 580, 581, 582, 592. One year of college credit (or its equivalent) in French, German, or Russian is required. The student who desires to be certified upon graduation by the American Chemical Society should consult his advisor for details. No more than five hours of "D" credit in chemistry will be counted in meeting the requirements for any of the majors in chemistry. Credit in Chemistry 100, 101, 102, 220, 221, and 284, all designed as service courses for students in other areas, will not be counted as applying toward a major in chemistry.

A major in pre-medical or pre-dental chemistry shall consist of a minimum of 30 hours credit in the following courses: Chemistry 111, 112, 113, 321, 351, 352, 354, 355, 461, and 462. These majors are open only to bona fide pre-medical and pre-dental students.

A chemistry teaching major shall consist of a minimum of 32 hours credit in courses selected from the following list: Chemistry 111, 112, 113, 321, 322, 351, 352, 354, 355, 461, 504, 514, 581, and 591. A chemistry teaching major is open only to those who meet the requirements for accreditation by the State of Utah.

Students minoring in chemistry are required to complete Chemistry 113 and at least six additional hours selected from Chemistry 221 and/or upper division courses in chemistry.

For special requirements of the College of Physical and Engineering Sciences, see that section of this catalog. Attention is called especially to the preparation required in mathematics and to the possibility of substituting air science credit for general education credit.

For details concerning the program for graduate study leading to the M.S. and Ph.D. degrees in chemistry, students should consult the Graduate Catalog.

Suggested Curriculum for a Chemistry Major

Freshman Year			Junior Year		
	F	S		F	S
Chem. 111, 112	4	3	Chem. 322	4	
Math. 111, 112	5	5	Chem. 351, 354	5	
English 111, 112	3	3	Chem. 352, 355		5
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Math. 315, 316	3	3
Health 130		2	German 101, 102	4	4
Religion	2	2	Religion		3
Gen. Ed. and			Gen. Ed. and		
Electives	3	2	Electives	2	3
	<hr/> 17 $\frac{1}{2}$	<hr/> 17 $\frac{1}{2}$		<hr/> 18	<hr/> 18
Sophomore Year			Senior Year		
	F	S		F	S
Chem. 113, 321	3	4	Chem. 461, 462	4	4
Math. 213, 214	5	5	Chem. 504, 514	2	3
Physics 211, 213	5	5	Chem. 591	1	
Religion	2	2	German 385, 386	3	3
Gen. Ed. and			Religion	2	3
Electives	2	2	Gen. Ed. and		
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Electives	5	5
	<hr/> 17 $\frac{1}{2}$	<hr/> 18 $\frac{1}{2}$		<hr/> 17	<hr/> 18

Lower Division Courses

100 (100). Elementary College Chemistry. (2:2:0) F.S.Su. (G-PS) Staff
For students seeking only a liberal arts education in chemistry. Those who have had high school chemistry should register in Chemistry 101, 105, or 111.

101 (101, 104). Introductory Inorganic Chemistry. (5-4:5:4-2) F.S. (G-PS) Staff
A course for student in home economics, nursing, and related fields. Students who have not had high school chemistry must register for two laboratory periods per week. Three lecture, two quiz, and one or two two-hours laboratory periods per week.

102 (102, 103). Introductory Organic Chemistry. (5-4:5:4-2) S. (G-PS) Pre-requisite: Chemistry 101. Staff
A course in organic and biochemistry for students in home economics, nursing, and related fields. Three lecture, two quiz, and one or two two-hour laboratory periods per week.

105, 106 (105, 106, 107). General College Chemistry. (4:4:2 ea.) 105:F.S.; 106: F.S.Su. (G-PS†) Prerequisite: Mathematics 111 or its equivalent or concurrent registration. High school chemistry or physics is recommended. On the basis of the results of placement tests, students may be required

to complete Chemistry 100 prior to registration in this course. Staff

A terminal course in chemistry designed for engineering and other technical areas. Three lecture, one quiz, and one two-hour laboratory periods each week.

- 111 (111). Principles of Chemistry. (4:5:0) F.S.Su. (G-PS†) Prerequisite: Mathematics 111 or its equivalent or concurrent registration. High school chemistry or physics is recommended. On the basis of the results of placement tests, students may be required to complete Chemistry 100 prior to registration in this course. Staff

A non-terminal course in fundamental principles for those who plan to continue their study of chemistry beyond the freshman year. Four lecture and one quiz periods each week.

- 112 (112). Principles of Chemistry. (3:3:3) F.S.Su. (G-PS†) Prerequisite: Chemistry 111. Staff
Two lecture, one quiz, and one three-hour laboratory periods each week.

- 113 (113). Principles of Chemistry and Qualitative Inorganic Analysis. (3:2:6) F.S. Prerequisite: Chemistry 112. Staff
One lecture, one quiz, and two three-hour laboratory periods each week.

- 220 (220). Elements of Quantitative Analysis. (3:2:3) F. Prerequisite: Chemistry 101 or 106 or 112. Butler, Wing
Quantitative analysis adapted to the needs of students in medical technology and of others interested in biological and food materials. (This course will not satisfy pre-medical or pre-dental requirements.)

- 221 (221). Quantitative Analysis. (3:2:3) F.S.Su. Prerequisite: Chemistry 113. Butler, Wing
For agricultural and biological science majors.

- 228 (228). Fire Assaying. (2:1:3) F. Prerequisite: Chemistry 113. Wing

- 284 (284). Physiological Chemistry. (4:3:3) S. Prerequisite: Chemistry 102 or 106. Vernon

Upper Division Courses

- 301 (300). Fundamentals of Chemistry for General Science Teachers. (2:2:0) Su. Staff
Restricted to experienced teachers of general science or similar subjects.

- 321, 322 (321, 322). Analytical Chemistry. (4:2:6 ea.) F.S. Prerequisites: Chemistry 113 and Mathematics 112. Butler, Wing
For physical science and engineering majors. Includes a formal introduction to the location and use of chemical literature.

- 351, 352 (351, 352, 353). Organic Chemistry. (3:3:0 ea.) F.S.Su. Prerequisites: Chemistry 113 and concurrent registration in Chemistry 354 and 355 respectively. (By special permission of the instructor prior to registration, Chemistry 352 may be taken without concurrent registration in Chemistry 355.) Blackham, Broadbent, Hawkins, Nelson
For science and engineering majors. Includes the use of the literature of organic chemistry and some qualitative organic analysis.

- 354, 355 (354, 355, 356). Organic Chemistry Laboratory. (1-2:0:3-6 ea.) F.S. Su. Prerequisite: concurrent registration in Chemistry 351 and 352 respectively. Blackham, Broadbent, Hawkins, Nelson

- 404 (400). Methods of Glass Manipulation. (1:0:3) F.S. Prerequisite: permission of instructor. Bryner

- 461, 462 (461, 462, 463). Physical Chemistry. (4:3:3 ea.) F.S. Prerequisites: Chemistry 321, Physics 213, and Mathematics 214. Anderson, Bryner

Advanced Undergraduate and Graduate Courses

- 500 (508). *History of Chemistry. (2:2:0) S. (Offered 1960-61) Nicholes
- 503 (503). Research Laboratory Techniques. (1:0:3) F. Staff
- 504 (504). Instrumental Analysis. (2:1:3) F.S. Butler, Goates
- 514 (414, 611). Inorganic Chemistry. (3:3:0) S. Prerequisites: Chemistry 221 or 321 and Chemistry 351. Hansen, Izatt, Peterson
- 518 (618). *Inorganic Syntheses. (2:0:6) (Offered 1961-62) Hansen, Izatt
- 524 (524). *Quantitative Microanalysis. (2:1:3) S. (Offered 1961-62) Wing
- 551 (551). Qualitative Organic Analysis. (2-3:1:3-6) F.
Blackham, Broadbent, Hawkins, Nelson
Systematic identification of organic compounds, singly and in mixtures.
- 580 (580). Metabolic Processes. (2:2:0) S. Prerequisites: Chemistry 352 and 461. Gubler, Swensen
For non-biochemistry majors only. Provides an insight into the important area of biochemistry for those who will not otherwise contact it.
- 581, 582 (581, 582, 583). Biochemistry. (5:3:6 ea.) F.S. Prerequisites: Chemistry 221 or 321 and Chemistry 352. Gubler, Swensen, Vernon
A general treatment of chemistry of substances and processes of biological significance.
- 591, 592 (591, 592, 593). Chemical Literature and Technical Writing. (1:1:0) F.S. Broadbent, Nelson
- 598 (597). Special Problems. (Arr.) Registration by permission. Staff

Graduate Courses

- 601 (601). Geometry of Atoms and Molecules. (3:3:2) F.
Blackham, Broadbent, Hawkins, Nelson
- 612 (612). *Chemistry of the Non-Metals. (2:2:0) F. (Offered 1961-62) Hansen, Izatt
- 613 (613). *Chemistry of the Metals. (2:2:0) F. (Offered 1960-61) Hansen, Izatt
- 621 (621). Advanced Analytical Chemistry. (2:2:0) S. Butler
- 652 (652). Advanced Organic Chemistry. (3:3:0) S.
Blackham, Broadbent, Hawkins, Nelson
- 658 (658). Organic Syntheses. (3:1:6) F.
Blackham, Broadbent, Hawkins, Nelson
- 661 (661). Chemical Thermodynamics. (3:3:0) F. Goates, Snow
- 662 (662). Chemical Thermodynamics. (2:2:0) S. Goates, Snow
- 663 (663). Reaction Kinetics. (2:2:0) S. Goates, Snow
- 681 (681, 683). Carbohydrate and Lipid Metabolism. (3:3:0) F. (Offered 1960-61) Gubler, Swensen, Vernon
- 682 (682). *Biochemistry of Amino Acids and Proteins. (3:3:0) F. (Offered 1960-61) Gubler, Swensen, Vernon
- 688 (688). Biochemical Preparations. (2:0:6) F.S. Gubler, Swensen
- 697 (697). Master's Candidate Research. (Arr.) Arr. Staff

699	(699).	Thesis for Master's Degree. (Arr.) Arr.	Staff
711	(711).	*Coordination Compounds. (2:2:0) F. (Offered 1960-61)	Izatt
719	(719).	Selected Topics in Inorganic Chemistry. (1-3:1-3:0) Arr.	Staff
725	(725, 726).	*Electro-analytical Chemistry. (3:3:0) F. (Offered 1960-61)	Butler
729	(729).	Selected Topics in Analytical Chemistry. (1-3:1-3:0) Arr.	Staff
751	(751).	Mechanisms of Organic Reactions. (3:3:0) F. Blackham, Broadbent, Hawkins, Nelson	
757	(757).	*Chemistry of Natural Products. (2:2:0) S. (Offered 1960-61)	Broadbent, Vernon
758	(758).	*Heterocyclic Compounds. (2:2:0) S. (Offered 1961-62)	Broadbent
759	(759).	Selected Topics in Organic Chemistry. (1-3:1-3:0) Arr.	Staff
761, 762	(761, 762, 763).	*Statistical Mechanics. (3:3:0 ea.) F.S. (Offered 1960-61)	Snow
764	(764).	*Nuclear and Radiochemistry. (3:2:2) S. (Offered 1961-62)	Anderson
765, 766	(765, 766, 767).	*Quantum Chemistry. (3:3:0) F.S. (Offered 1961-62)	Snow
769	(769).	Selected Topics in Physical Chemistry. (1-3:1-3:0) Arr.	Staff
781	(781).	*Enzyme Chemistry. (2-3:2:0-3) F. (Offered 1961-62)	Swensen, Vernon
782	(782).	*Biological Oxidations. (2:2:0) S. (Offered 1961-62)	Vernon
789	(789).	Selected Topics in Biochemistry. (1-3:1-3:0) Arr.	Staff
797	(797).	Doctoral Candidate Research. (Arr.) Arr.	Staff
799	(799).	Dissertation for the Ph.D. Degree. (Arr.) Arr.	Staff

*Offered in alternate years only.

Professors: Fuhrman (chairman, 198 ELB),
Hodson, Rollins.

**Associate
Professors:** Barton, Firmage.

**Assistant
Professor:** Calder.

Instructors: Coombs, Tippetts, Wilkes, Wilson.

Civil Engineering Science



Students entering the department are required to follow specified courses which have been planned to provide a broad education in all basic aspects of civil engineering. Students are able to obtain qualifications in such closely related fields as applied mechanics, architectural engineering, etc.

Entrance Requirements

These include both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Science. Students are urged to include trigonometry and intermediate algebra in high school courses. Where evidence of superior student training in English and up to calculus in mathematics is available and is confirmed by entrance examination, some credit may be rebated in the first year program listed below.

Grade Requirements

A student must have received an average grade of "C" or better in calculus and physics before being admitted as a regular third-year student in the department. A student who has not obtained this average may petition for special consideration. If he is admitted, it will be on a probationary basis subject to periodic review. If his work subsequently proves unsatisfactory, he will be dropped from the department.

No more than 6 hours of "D" credit in the major department will be counted toward graduation.

Graduation Requirements

The degree of Bachelor of Engineering Science may be obtained by completing the program specified below. Major and minor academic requirements are automatically satisfied by completion of the course specified.

Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the physical education requirements outlined in the section of this catalog titled "Requirements for Graduation." The program outlined assumes advantage will be taken of the opportunity to cross reference four hours of religion with four hours of other general education requirements. Particular information relative to other recommended courses to be included in the general education requirements or possible options emphasizing various professional aspects may be had by direct application to the department chairman.

The following abbreviations are used: Ch.E., for Chemical Engineering; C.E., for Civil Engineering; E.E., for Electrical Engineering; G.E., for Geological Engineering; M.E., for Mechanical Engineering; and G.E.R., for General Education Requirements.

General Education Group Requirements

Engineering science students are subject to all of the general education requirements listed elsewhere in this catalog, with the following exceptions:

- (1) They may take the required course in health education any time during the first or second year. One credit of this should always be cross-referenced with the religion requirements.
- (2) When necessary, the biological science requirement may be reduced to four semester-hours instead of the six semester-hours specified. All of these may be obtained in a single course if desirable. For civil engineering students certain courses are required in bacteriology (See normal program).
- (3) Maximum advantage should be taken of the cross-referencing of religion with other courses.

Engineering students may register for 18 hours, exclusive of physical education and forum, in any one semester without obtaining special permission.

Normal Program for Majors

First Year					
	F	S			
Ch.E. 105, 106*	4	4	Geology 111		4
Math. 111, 112*	5	5	Religion (Cross Ref.)	2	2
English 111, 112	3	3	Bact. 121**	3	
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	General Education**	3	3
C.E. 101, 102	2	2		17	18
Health (Cross Ref.)		2	Fourth Year		
M.E. 100	1			F	S
Religion	2	2	C.E. 422	2	
	17 $\frac{1}{2}$	18 $\frac{1}{2}$	C.E. 423, 424	3	3
Second Year					
	F	S			
Math. 213, 214	5	5	C.E. 431, 432	3	3
Physics 211, 213	4	4	Bact. 381**		2
Physics 212, 214	1	1	C.E. 413		2
C.E. 211, 212	3	2	Ch.E. 378, C.E. 401	3	2
C.E. 203, 301	2	3	Religion	2	2
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	C.E. 441	3	
Religion	2	2	General Education**	2	4
	7 $\frac{1}{2}$	17 $\frac{1}{2}$		18	18
Third Year				Fifth Year	
	F	S		F	S
C.E. 303, 302	3	3	C.E. 403	3	
C.E. 321		2	C.E. 525	3	
M.E. 320, 411	3	4	C.E. 551, 561	3	3
Math. 315	3		C.E. 542		3
			C.E. 571		3
			E.E. 301, 302	4	4
			Approved Electives	3	2
				16	15

*Students with insufficient mathematics and science background from high school must register for Math 101 and Chem. 100 first semester. This will require an additional summer term of study to supplement the above curriculum.

**Civil engineers must take five credit hours of bacteriology. In Group IV, Economics 101 and Sociology 111 are recommended.

Lower Division Courses

- 101 (201). Engineering Graphics.** (2:1:4) F.S. Staff
Materials and instruments in engineering drawing, introductory practice in orthographic projection, transfer of pictorial sketches and machine part samples to scaled drawing, reproduction processes, and drawing principles.
- 102 (202). Engineering Graphics.** (2:1:4) F.S. Prerequisites: Math 111, C.E. 101 or equivalent. Staff
Graphics principles, including descriptive geometry, projections, perspective applications, and developments.
- 203 (203). Engineering Graphics.** (2:1:4) F.S. Prerequisites: C.E. 102, Math 112, or consent of instructor. Staff
Graphical mathematics, empirical equations, nomography, graphical calculus, graphic statics.
- 211 (320). Elementary Surveying.** (3:2:3) F. Prerequisites: Math 111, C.E. 102 or consent of instructor. Calder
Lectures and field work in measurements of distances, angles, and differences of elevation using the usual survey methods and instruments; preparation of notes; adjustments; simple triangulation and traverses; and use of the plane table.
- 212 (321). Engineering Surveying.** (2:1:3) S. Prerequisite: C.E. 211. Calder
More advanced concepts in survey theory including curve and earth-work survey, and astronomical observations. Emphasis is placed on engineering uses of survey techniques.

Upper Division Courses

- 301 (301). Engineering Mechanics—Statics.** (3:2:3) F.S. Prerequisites: college physics, C.E. 203, and Mathematics 213. Staff
Introductory concepts of mechanics, force systems and problems of equilibrium applied to structures, centers of gravity and centroids, elementary hydrostatics, friction in engineering problems, beam problems, and virtual work.
- 302 (302). Engineering Mechanics—Dynamics.** (3:2:3) F.S. Home Study also. Prerequisite: C.E. 301. Staff
Definitions and principles of kinematics and kinetics; engineering applications in terms of force, mass acceleration, work and energy, impulse and momentum, periodic motion.
- 303 (303). Engineering Mechanics—Mechanics of Materials.** (3:2:3) F.S. Home Study also. Prerequisite: C.E. 301. Staff
Fundamental concepts in terms of elastic stress and strain relations; cylinders and spheres under pressure; problems of torsional load; beam theory including bending stresses, complex stress, calculation of deflection and continuity aspects, two-dimensional elastic theory.
- 304 (304). Engineering Mechanics—Dynamics.** (3:2:3) F.S. Prerequisites: C.E. 301, Math 315. Staff
Basic concepts of dynamics applied to particles, systems of particles, rigid bodies vibration systems, non-rigid particles systems and an introduction to selective topics in advanced methods in dynamics. Vector notations used in the treatment of all topics.
- 321 (402). Elementary Structural Theory.** (2:2:0) S. Prerequisite: C.E. 303. Firmage
Theory of statically determinate structures; force systems; analysis of trusses and frames; influence diagrams; loads on structures, approximate methods of analysis of indeterminate structures.

- 401 (401). **Properties of Materials.** (2:1:3) F.S. Prerequisite: C.E. 303 or consent of instructor. Barton, Staff
Theories and procedure of physical testing of materials, introduction to failure theories and solid state concept of behavior of materials; the mechanics of deformation.
- 403 (410). **Concrete Technology.** (3:2:3) F. Prerequisites: Geology 111, C.E. 424. Hodson, Wilson
Manufacture and testing of cements; technology of concrete materials and concrete mix design; techniques of concrete handling, placing, and treatment, laboratory work.
- 413 (New). **Photogrammetry.** (2:1:3) S. Prerequisite: C.E. 212. Calder
Theory and application of the use of terrestrial and areal photographs to produce maps; vertical and oblique photography and mapping procedures; stereoscopic viewing and measurements for relative position of objects in three dimensions, photo interpretation, sources of error.
- 422 (New). **Statically Indeterminate Structures.** (2:2:0) F. Prerequisite: C.E. 321. Firmage
Stability and determinateness of structures; deflections, moment-area and conjugate beam, moment-distribution.
- 423 (403). **Structural Design.** (3:2:3) F. Prerequisite: C.E. 321. Firmage, Hodson
Design of structural elements in metal—beams, columns, tension members, plate girders—and riveted, welded, and belted joints.
- 424 (404). **Reinforced Concrete Design.** (3:2:3) S. Prerequisites: C.E. 321 and 422. Firmage, Hodson
Theory and design of reinforced concrete structures from both the elastic and plastic approach. Introduction to prestressed concrete.
- 431 (432). **Hydrology.** (3:2:3) F. Prerequisite: M.E. 411. Fuhrman
A study of water as it occurs in nature; relationships between precipitation, evaporation, infiltration, transpiration, groundwater, and stream runoff.
- 432 (429). **Hydraulic Design.** (3:2:3) S. Prerequisites: M.E. 411, C.E. 423, 431. Fuhrman
Theory and design of water control and water conveyance structures such as dams, pipe-lines, open channels, and hydraulic transitions.
- 441 (420). **Elementary Soil Mechanics.** (4:3:3) F. Prerequisites: Geology 111 and Physics 212. Rollins
Basic physico-chemical characteristics of soils. The soil water system. Permeability seepage and associate uplift pressures. Consolidation theory, strength theory and the shearing strengths of sand and clay. Earth pressure theories, slope stability analysis and applied aspects.

Advanced Undergraduate Courses

- 504 (504). **Theory of Elasticity.** (3:3:0) Arr. Prerequisites: C.E. 401, Mathematics 315. Barton, Hodson
Theory of elastic behavior, complex stress failure and failure theories, selected experimental work.
- 525 (501). **Advanced Structures.** (3:2:3) F. Prerequisite: C.E. 424. Hodson, Firmage
Theory and design of statically indeterminate structures, redundant frames, strain energy methods, Castigliano's theorems, slope-deflection equations and relaxation methods, associated drawing office work.
- 526 (505). **Advanced Structural Design.** (3:2:3) Arr. Prerequisite: C.E. 525. Hodson, Firmage
Design of the more advanced type of structures such as continuous

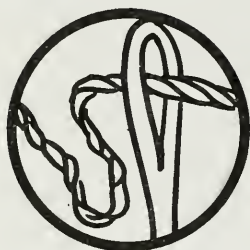
bridges, multi-story buildings, and roof structures. Covers design from the basic preliminary studies to the complete integrated structural design. Design office procedure.

- 531 (New). Advanced Hydraulic Design.** (3:2:3) Arr. Prerequisites: C.E. 424, 431, 432. Fuhrman
 Planning and basic design of hydro-electric, flood control, irrigation, and multi-purpose projects involving the utilization of water resources; consideration of hydraulic and hydrologic design elements.
- 542 (520). Foundation Engineering.** (3:2:3) S. Prerequisite: C.E. 420. Rollins
 Subsurface exploration, bearing capacity concepts, settlement of structures, and basic principles of foundation design.
- 543 (New). Physico-Chemical Characteristics of Soils.** (3:3:0) Arr. Prerequisites: Chem. 106, Physics 212, C.E. 441. Rollins
 Study of physico-chemical relationships in soils, including the structure of the clay minerals, properties of the electrical double layer, ion exchange phenomena, and soil moisture movement and equilibria.
- 551 (430). Sanitary Engineering.** (3:2:3) F. Prerequisites: C.E. 432, Bact. 381. Fuhrman
 Review of public health engineering. Applications to design, construction, and operation of water supply and sewerage systems.
- 561 (521). Highway Engineering.** (3:2:3) S. Prerequisite: C.E. 542. Rollins
 Traffic studies, geometric design grade separations, and interchanges. Properties subgrades, base courses, bituminous materials, and surface pavements. Theory and practice in flexible pavement design. Design of concrete pavements, techniques of road construction.
- 571 (540). Engineering Ethics, Economics, and Legal Problems.** (3:3:0) Arr. Prerequisite: fifth year standing in Civil Engineering Science. Staff
 Professional, legal, and economic problems of the engineering profession, including contracts, specification writing and ethics. Case histories are studied as they effect the engineering profession.
- 598 (594, 595, 596). Special Problems in Civil Engineering.** (Arr.) Arr. Prerequisites: fifth year standing in engineering and permission of the department chairman. Staff
 Selected problems for the field of civil engineering which will enable the student to apply his fundamental knowledge to their solutions.

Clothing and Textiles

Assistant Jorgensen (chairman, 3256 SF
Professors: LC), Childs.

Instructors: Argyle, Domgaard, Finlayson,
Gardner.



The Department of Clothing and Textiles is designed to help the student understand clothing as it relates to personal needs and to the needs of family members. Consideration is given to the expression of creative abilities, a knowledge of fabrics (their selection, use and care), economy, and the comfort and health of the body. The curriculum offers experience in clothing selection, buying, design and construction; provides instruction in identifying and recognizing quality performance of textiles; and engenders an appreciation for the history of costume and textiles.

Study in the Department of Clothing and Textiles, combined with experience and an appropriate minor, leads to a variety of professional opportunities. Students prepare for careers in such fields as professional buying, textile testing, fashion illustrating, promotional fashion work, dressmaking, demonstrating, phases of garment manufacturing, and dress and fabric designing. Background is also provided for graduate study in college teaching, research, and extension services.

For minors in clothing and textiles, a total of at least 13 credit hours in the department is required. A minimum of one course in at least 3 of the 4 areas listed below is suggested.

Construction: Clothing and Textiles 165, 235, 355.

Textiles: Clothing and Textiles 260, 580, 594.

Design and selection: Clothing and Textiles 110, 300, 345, 350.

Economics and history: Clothing and Textiles 330, 430, 472.

Men students who plan to minor in clothing and textiles should consult the department chairman.

For majors in clothing and textiles, a minimum of 22 credit hours in the department is required, including at least 3 hours credit in each of the four areas listed above. A special problem is expected. For graduation from the College of Family Living, these hours must be combined with enough credit to make a total of 35 hours. Included shall be at least 12 hours credit outside the major with a minimum of 3 hours in each of the following departments: Family Housing, Foods and Nutrition, and Human Development and Family Relationships.

Suggested Program for Majors

Freshman Year		Junior Year	
	Hours		Hours
Religion*	4	Religion*	4
English**	4-6	English (literature)*	3
(hours determined by placement exam)		History 170* or 180*	3
Physical Education and Health**	3	Art 306	3
Chemistry 101, 102*	8	Clothing and Textiles (courses toward major—300, 330, 345, 350)	6
Psychology 111*	3	Electives	11-13
Family Living 91**	0		
Clothing and Textiles 110, 165*	6		
Electives	2		
Sophomore Year		Senior Year	
	Hours		Hours
Religion*	4	Religion*	4
Physical Education**	1	Humanities*	2
Physics 100 or 177	3	Clothing and Textiles (courses towards major—355, 430, 472, 580, 594)	7
Bacteriology 121*	3	Family Living (courses toward 35 hr. total)	3
Botany 101*	3	Electives	14-16
Economics 101*	3		
Foods and Nutrition 110, 210	2-4		
Family Housing 220 or 226 or 235	3-4		
H.D.F.R. 210	3		
Clothing and Textiles 235, 260*	3-5		
Electives	2		

*Required

**Required during year listed

Students interested in textile design may complete a major in clothing and textiles with a minor in art. The following courses are recommended: Art 110, 250, 306, 310, 352, 362.

Those interested in costume design may complete a major in clothing and textiles with a minor in art. The following courses are recommended: Art 110, 122, 233, 306, 322, 341, 342, 448.

Students interested in fashion merchandising may complete a major in clothing and textiles with a minor in business management. The following courses are required: Business Management 347, 456, 556. Recommended courses are: Business Management 315, 420, 455.

Students who combine a clothing and textiles major with a minor in journalism are encouraged to elect Journalism 101, 111, 211, 330, 331, 351, 571.

Majors in clothing and textiles who desire to teach in secondary schools should complete a double major in homemaking education and clothing and textiles (see requirement for homemaking education). This plan requires at least two additional semesters, or 22 to 25 more credit hours.

Many of the following courses are of value to both men and women. For more information see section in College of Family Living.

Lower Division Courses

- 105 (105). **Elementary Clothing Construction.** (1:1:2) F.S. Argyle, Domgaard
Not for majors in clothing and textiles. Service course for students with little or no experience in sewing. Construction of cotton clothing.

- 110 (110, 370). **Selection and Care.** (2:2:1) F.S. Argyle, Finlayson, Gardner
Study of design elements and principles as applied to selection of clothing and accessories; planning, buying, cost and care of wardrobe; personal analysis—grooming, posture, poise, personality.
- 124 (124). **Clothing for Men.** (1:1:1) F.S. Childs
Open to all men students. Men's apparel as related to the wearer. Planning, buying, cost, care and self-improvement factors. Field trips. Guest lecturers.
- 165 (115, 225). **Dress and Pattern Construction.** (4:2:8) F.S. Staff
Techniques and procedures in constructing a tailored dress and an afternoon or evening dress; analysis and modification of commercial patterns.
- 235 (335). **Children's Clothing.** (2:1:3) F.S. Prerequisite: Clothing and Textiles 165. Domgaard, Jorgensen
Selection, design, and construction of children's clothing as related to the child's developmental needs.
- 260 (260, 370). **Textiles.** (3:3:1) F.S. Childs
Natural and synthetic textile fibers; yarns, fabric construction, dyes and finishes fundamental in the purchase, and use and care of textile fabrics.

Upper Division Courses

- 300 (New). **Clothing the Family.** (2:2:0) F.S. Recommended prerequisite: at least 3 hours credit in psychology, sociology, or economics. Childs
For men and women. Factors involved in the planning, selecting, and purchasing of clothing for the family. Needs, resources, sociological and psychological effects discussed.
- 330 (330). **History of Costume.** (2:2:0) F. Prerequisite: some work in economics, sociology, and history. Jorgensen
Social, economic, and political influence on dress. Analysis of costume as an expression of the life of the people and as basis for interpreting modern fashions.
- 345 (345). **Draping and Flat Pattern Design.** (3:2:4) F. Prerequisites: Clothing and Textiles 110, 165, 260. Recommended prerequisite: Clothing and Textiles 330. Gardner
Creative design achieved through techniques of flat pattern and draping on an individualized dress form.
- 350 (340). **Costume Design.** (2:2:2) S. Prerequisites: Clothing and Textiles 110, 165, 330, 345. Childs
Opportunities for creative expression in applying principles of art to clothing design; exploring various resources for inspiration.
- 355 (355). **Tailoring.** (3:3:3) F.S. Prerequisites: Clothing and Textiles 165, 260. Recommended prerequisite: Clothing and Textiles 110. Domgaard, Gardner
Custom tailoring techniques applied to construction of coats and suits.
- 430 (430). **Historic Textiles.** (2:2:0) Not offered in 1960-61. Prerequisite: Clothing and Textiles 260. Recommended prerequisite: Clothing and Textiles 330. Staff
The history and development of textile fabrics from primitive times to present age.
- 472 (472). **Fashion Industry.** (2:2:0) S. Prerequisite: 3 credit hours in clothing and textiles; 6 credit hours in economics, sociology, or history. Jorgensen
Development of the fashion movement—its relation to manufacturing and consumption of clothing. A study of garment production, fashion de-

signers, fashion cycles, and trade organizations.

- 580 (560, 590). **Advanced Textiles.** (3:3:2) S. Prerequisites: Clothing and Textiles 260; Chemistry 101, 102. Childs
Testing physical and chemical properties of fibers and fabrics to determine their use and care. Recent textile developments.
- 594 (594). **Special Problems.** (1-2:Arr.:Arr.) S. Prerequisite: 15 semester hours in clothing and textiles. Staff
- 595 (595). **Problems in Construction.** (2:Arr.:Arr.) S. Staff

Economics

Professors: Nelson (chairman), Clark.

Assistant

Professors: Davies, Doxey, Gardner.

Instructor: LeBaron.



The Economics Department serves three types of students:

1. The economics major, for whom a wide range of challenging areas is available.
2. All business students, assisting them to see where their specialty fits into the general economic picture.
3. The general University student, aiding him in his role as a consumer, worker, and citizen.

The philosophy of the department is to provide a liberal background to serve as a basis for entrance into many professional areas. Thus, a minimum of specified courses allows the student considerable flexibility in developing his own program.

Several programs are available to serve students majoring in economics:

1. General Business Economics—for students desiring to go directly into business.
2. Labor Relations and Labor Economics—for those intending to make labor relations a profession.
3. Political Economics—for those contemplating law or government service.
4. Economic Theory—for students intending to do graduate work in economics or allied fields.
5. International Economics—for those desiring to enter foreign service or engage in international trade.
6. Teaching preparation—for prospective teachers in junior colleges.

Requirements of majors: Accounting 201 or 211, and 230; Business Management 340, 342, 347, and 480 or 481; Statistics 221 and one other course; Economics 111 and 112, 274, 345, 453, 586, 587, and eight additional hours including two seminars.

Lower Division Courses

- 101 (101). **Introduction to Economics.** (3:3:0) F.S.Su. Home Study also. (G-SS) Staff
Basic general education course in economics to prepare students for citizenship by training in fundamental economic principles and developing an understanding of the most important aspects of some of the critical economic problems facing America and the world today.
- 111 (111). **Economic Principles and Problems.** (3:3:0) F.S.Su. (G-SS) Staff
An intensive analysis of basic economic principles and problems. Designed for College of Business students and others who can give evidence of their ability to meet the standards required.
- 112 (102). **Economic Principles and Problems.** (2:2:0) F.S.Su. (G-SS) Pre-requisite: Economics 111. Staff
A continuation of Economics 111.
- 274 (274). **Economic and Financial History of the United States.** (3:3:0) F. S.Su. Home Study also. (G-HA) Davies, Doxey
A study of the important economic developments in the history of the United States. Special attention is given to their effect on the present-day economy.

Upper Division Courses

- 345 (345). **Intermediate Economic Analysis.** (3:3:0) F.S.Su. Prerequisites: Economics 101 or 111 and 112. Staff
Price, distribution and national income analysis.
- 358 (New). **International Trade and Finance.** (3:3:0) F. (G-SS) Doxey
An introduction to the principles and problems of international trade and finance. Special emphasis will be placed on their application in the United States.
- 383 (New). **Comparative Economic Systems.** (2:2:0) S. (G-SS) Nelson
Analysis and critical appraisal of contemporary economic systems: Capitalism, Socialism, and Communism.
- 453 (453). **Money and Banking.** (3:3:0) F.Su. Clark
Principles of money and banking as related to monetary and banking theory and policy.
- 454 (454). **Real Estate and Urban Land Economics.** (3:3:0) S. Nelson
Study of forces of demand and factors of supply of urban land, problems of the building industry, real estate credit, rents and prices, and city growth and structure.
- 461 (461, 562). **Labor Economics and Labor Relations.** (3:3:0) F.S. Home Study also. Davies
Examination of major areas in which management and unions come into contact, and the forces affecting this relationship. Special emphasis is given to collective bargaining.
- 462 (562, 563). **Labor and Public Policy.** (3:3:0) S. Davies
An examination of the impact of unionism on the public and on the development of a public labor policy.

Advanced Undergraduate or Graduate Courses

- 510 (510). **Utah Workshop on Economic Education.** (3:Arr.:Arr.) Su. (Continuous for three weeks.)
- 556 (556). **Transportation and Traffic Management.** (2:2:0) F. LeBaron

- 558 (558). **International Trade and Finance.** (3:3:0) S. Doxey
- 574 (New). **American Economic History.** (2:2:0) F. Doxey
- 575 (575). **Government Finance.** (3:3:0) F. Staff
Financing of federal state, and local government. Includes a study of expenditures, taxes, budgeting, and government financial policies.
- 576 (576). **Government and Business.** (3:3:0) S. Staff
- 580 (580). **History of Economic Thought.** (3:3:0) F. Davies
The development of economic thought from the Greeks to the present day.
- 586 (586). **Theory of Price.** (3:3:0) F. Gardner
Advanced problems in pricing of products and productive factors. Principles of resource allocation and the welfare optima. Current controversies in welfare economics are explored.
- 587 (550). **Theory of Income, Employment, and the Price Level.** (3:3:0) S. Gardner
Neo-classical and Keynesian, aggregate income and employment theory in a static framework. Problems in economic dynamics and growth will be considered with economic policy, both fiscal and monetary, being given attention.
- 593, 594 (593, 594, 595). **Seminar.** (1-2:1-2:0) F.S. Staff
- 681 (681). **Contemporary Economic Thought.** (2:2:0) S. Davies
- 682 (682). **Business and Economic Fluctuations.** (2:2:0) F. Nelson
- 683 (683). **Competitive Economic Systems.** (2:2:0) S. Nelson
- 696, 697 (696, 697, 698). **Research.** (1-3:Arr.:Arr.) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (1-6:Arr.:Arr.) Staff

These courses also count in economics:

Geography 223. **Economic Geography.** (3:3:0)

Agricultural Economics 580. **Agricultural Policy.** (2:2:0)

Geography 560. **Industrial Geography.** (3:3:0)

Geography 565. **Urban Geography.** (2:2:0)

Professors: Oakes (chairman, 126 McKay),
Burrup, Morrill, Woolf.

**Associate
Professors:** Barnett, Eastmond.

Educational Administration



Undergraduate Course

310x (310). The State, the School, and the Teacher. (2:2:0) Home Study only.
Barnett

Graduate Courses

Prerequisite to all courses: 33 hours of education.

- 600 (600,700). Organization and Administration of Public Schools. (3:3:0) F. S.Su.** Burrup, Eastmond, Morrill, Oakes
- 610 (610). Public School Finance. (2:2:0) F.S.Su.** Barnett, Burrup, Eastmond, Morrill
- 619 (619). Personnel Problems of the School Staff. (2:2:0) F.S.Su.** Barnett, Eastmond
- 631 (631). The Elementary School Principalship. (2:2:0) F.Su.** Morrill, Oakes
- 644 (644). Work of the Secondary School Principal. (2:2:0) S.Su.** Burrup, Morrill, Oakes
- 651 (651). Administration of Auxiliary Services. (2:2:0) F.Su.** Barnett
- 654 (654). Administration of Pupil Personnel. (2:2:0) S.Su.** Burrup
- 665 (665). Supervision of Education. (2:2:0) F.S.Su.** Oakes, Woolf
- 673 (673). School Law. (2:2:0) F.S.Su.** Barnett, Burrup, Oakes, Woolf
- 682 (New). The Junior College. (3:3:0) F.S.** Staff
- 690, 691, 692 (690, 691, 692). Seminar. (1-2:1-2:0) F.S.Su.** Staff
- 693, 694 (693, 694). Independent Readings. (1-2:3-6:0) F.S.Su.** Staff
- 696, 697 (696, 697). Independent Research. (1-2:3-6:0) F.S.Su.** Staff
- 698 (698). Field Project. (2-4:Arr.:Arr.) F.S.Su.** Staff
- 699 (699). Thesis for Master's Degree. (2-4:Arr.:Arr.) F.S.Su.** Staff

- 712 (712). The Junior High School. (2:2:0) S.Su. Staff
- 723 (723). The Senior High School. (2:2:0) S.Su. Staff
- 730 (730). Business Administration of the Public Schools. (2:2:0) S.Su.
Burrup, Eastmond
- 737 (737). Research and Survey Procedures in Educational Administration.
(2:2:0) S.Su. Morrill, Oakes
- 738 (626, 738). Leadership Functions in Education Administration. (3:3:0)
F.S.Su. Eastmond, Morrill
- 748 (748). College and University Organization and Administration. (2:2:0)
F.Su. Oakes
- 749 (749). Evaluation and Accreditation of Educational Institutions. (2:2:0)
F.Su. Oakes, Woolf
- 750 (750). Public School Building Programs. (2:2:0) S.Su. Barnett, Morrill
- 786 (786). Problems of Taxation and Financial Support of Public Institutions.
(2:2:0) F.Su. Burrup, Eastmond
- 798 (798). Doctoral Field Project. (Arr.) F.S.Su. Staff

Professors: Romney, Woodruff.
Associate Professor: Alley (chairman, 202 McKay).
Assistant Professor: Ovard.

Educational Philosophy and Programs



This department is devoted to a critical examination of society for the purpose of determining the general values upon which our educational system should be founded. The approach is historical, political, sociological, religious, and philosophical. The courses also deal with the professional nature of education and educators and the roles of non-educators and educators in public education.

The courses are offered in four divisions: Philosophy of Education, History of Education, The School in the Social Order, and Educational Objectives and Programs. Except for two service courses and an independent readings course, all courses are at the graduate level.

Upper Division Courses

- 410 (E.A. 310, E.P.P. 415). School and Society.** (3:3:0) F.S. Prerequisites: Instruction 449 or 479. Staff
 Institutional aspects of education, professional ethics and fundamental values upon which educational objectives should be based. Problems and concepts encountered in earlier courses in the educational sequence are examined in the light of the values studied.
- 415x (415). Educational Values.** (2:2:0) Home Study also. Not taught after the first semester except by Home Study. Prerequisite: Instruction 449 or 479. To be taught only until June 1962. Alley, Ovard
- 493, 494 (493, 494). Independent Readings.** (1-2:3-9:0) F.S. Staff

Graduate Courses

PHILOSOPHY OF EDUCATION

- 602 (602). Educational Values and the Experienced Teacher.** (2:2:0) Su. Alley, Ovard
- 604 (604, 605). Comparative Current Educational Philosophy.** (3:3:0) F.S.Su. Alley
- 605 (605, 615). Educational Classics and Contemporary Issues.** (3:3:0) S. Alley

HISTORY OF EDUCATION

- 621 (621, 622). History of Education in Europe and America. (4:4:0) F. Ovard
631 (631). Education in a World Setting. (2:2:0) S. Romney

THE SCHOOL IN THE SOCIAL ORDER

- 642 (642). Education in the Social Order. (2:2:0) Ovard

EDUCATIONAL OBJECTIVES AND PROGRAMS

- 662 (662). Philosophy of Program Planning. (2:2:0) S. Oakes, Woodruff

GENERAL COURSES

- 690, 691 (690, 691). Seminar. (1-3:1-3:0 ea.) F.S. Staff
693, 694 (693, 694). Independent Readings. (1-2:3-9:0 ea.) F.S. Staff
696, 697 (696, 697). Independent Research. (1-2:3-9:0 ea.) F.S. Staff
698 (698). Field Project. (Arr.) Arr. Staff
699 (699). Thesis. (Arr.) Arr. Staff

Professors: Egbert (chairman, 254 McKay),
Lloyd, Reid, Romney, Woodruff.

Associate Professors: Bauer, Downing*, Krider, Parker.

Assistant Professors: Harris, Jensen, Moses.

Instructors: Orrock, Wilson.

Educational Research and Services



The offerings and programs in this department are of two kinds: (1) Those which provide teachers and special personnel with the necessary understandings and insights into human behavior and learning which they will need in working with normal and with exceptional students, and (2) those which promote research and extend educational services to the University and the public schools. In this latter instance the departmental graduate programs in personnel and guidance and in special education are of particular importance to the schools.

A program for training of school psychologists has recently been introduced in collaboration with the Department of Psychology. This is a master's degree program, but interested students should begin the foundation courses early in their undergraduate years. The Department of Educational Research and Services also offers a master's degree in Educational Psychology.

Students interested in these four graduate programs should contact the department chairman for details.

The courses in this department are listed in three groups: Educational Psychology and Guidance, Special Education, and General.

EDUCATIONAL PSYCHOLOGY AND GUIDANCE COURSES

Upper Division Courses

- 304 (304). Educational Psychology.** (2:2:0) F.S.Su Home Study also. Pre-requisites: Inst. 449 or 479, and H.D.F.R. 210, Psychology 320 or Psychology 321. Staff

Enrollment limited to homemaking education majors and those with composite majors which include psychology. Others should receive special permission from the instructor. Psychological facts and principles related to the teaching-learning situation.

- 403 (403). Development and Learning.** (4:4:0) F.S.Su. Prerequisite: 449 or 479. Staff

Designed to give the student an understanding of the psychological principles related to the teaching-learning situation. Attention is given to such topics as the learning process, readiness, individual differences, motivation, and evaluation.

- 410 (410). Tests and Measurements for Classroom Teachers.** (2:2:0) S.Su. Harris

Emphasizes techniques for construction and use of classroom tests as

measuring and teaching devices; consideration also given to standardized tests and evaluation techniques other than testing.

Advanced Undergraduate or Graduate Courses

- 540 (540). **Statistical Methods.** (2:2:0) F.Su. Bauer, Egbert
Consideration is given to measures of central tendency, variability, and linear correlation. Elementary concepts of probability and inference are discussed. Required but may not be counted as part of the 45 hours for the master's degree by people majoring in this department.
- 541 (541). **Advanced Statistics.** (2:2:0) S.Su. Prerequisite: E.R.S. 540. Egbert
- 550 (550). **Introduction to Guidance Services.** (2:2:0) F.S.Su. Downing, Jensen, Moses, Parker
Introduction to principles and practices of the guidance program in public schools. Designed for prospective teachers of both elementary and secondary levels. This course is required but may not be counted as part of the 45 hours for the master's degree by people majoring in this department.

Graduate Courses

- 601 (601, 602). **Advanced Educational Psychology.** (2:2:0) S.Su. Prerequisite: E.R.S. 403. Harris, Bauer
- 606 (606). **Behavior Problems in the Schools.** (2:2:0) F.S.Su. Prerequisites: E.R.S. 403, 550. Downing
- 610 (610). **Educational Tests and Measurements.** (2:2:0) F.Su. Harris, Bauer
- 611 (611, 621). **Guidance Testing and Diagnosis.** (3:3:0) F.Su. Prerequisite: E.R.S. 550. Jensen, Moses
- 612 (612). **Diagnosis of Achievement Difficulties.** (2:2:0) F.Su. Prerequisites: E.R.S. 610 or 611. Harris, Krider
- 620 (620, 621). **Counseling Theory and Practice.** (3:3:0) F.Su. Prerequisite: E.R.S. 550. Reid, Downing, Parker, Moses
- 622 (622). **Group Techniques for Counselors.** (2:2:0) S.Su. Prerequisites: E.R.S. 550 and 620. Downing, Jensen, Moses
- 624 (624). **Industrial Counseling.** (2:2:0) Arr. Prerequisites: E.R.S. 550, 620, 651. Staff
- 625 (625). **Advanced Counseling Theory.** (2:2:0) S.Su. Prerequisites: E.R.S. 620 and Psychology 550. Parker, Reid
- 640 (640). **Evaluation of Educational and Psychological Literature.** (2:2:0) S.Su. Staff
- 641 (641). **Educational Research and Thesis Writing.** (2:2:0) F.Su. Prerequisite: E.R.S. 540. Egbert
- 650 (650). **Guidance Workshop.** (2:2:0) Arr. Prerequisite: E.R.S. 550. Staff
- 651 (651). **Informational Services in Guidance.** (3:3:0) S.Su. Prerequisite: E.R.S. 550. Downing, Clark
- 653 (653). **Administration of Guidance Services.** (2:2:0) S.Su. Prerequisite: E.R.S. 550. Downing
- 656 (656). **Student Personnel Services in Higher Education.** (2:2:0) S. Prerequisite: E.R.S. 550. Clark, Lloyd

- 670 (670, 672, New). Practicum in Testing and Counseling. (5:2:10) F.S.Su. Prerequisite: consent of instructor. Jensen, Parker
- 675 (675). Practicum in School Psychology. (2-4:1-2:4-8) S. Prerequisite: consent of instructor. Moses
- 690 (690). Seminar in Personnel and Guidance. (1:1:0) F.S.Su. Prerequisite: consent of instructor. Staff
- 771 (New). Practicum in Counseling. (3:1:8) S.Su. Prerequisite: consent of instructor. Parker
- 790 (New). Seminar: Educational Measurement. (2:2:0) S.Su. Prerequisite: consent of instructor. Harris, Jensen
- 791 (New). Seminar: Learning Theory Applied to Education. (2:2:0) S.Su. Prerequisite: Psychology 560. Bauer, Egbert, Woodruff

SPECIAL EDUCATION COURSES

Advanced Undergraduate or Graduate Courses

- 560 (560). Education of Exceptional Children. (3:3:0) F.S.Su. Krider, Wilson
A general course designed to acquaint the student with the causes, recognition, incidence, and characteristics of all types of exceptional children. Designed to meet needs of both classroom teacher and person going into special education.
- 561 (561). Standard English Braille. (2:2:0) Arr. Staff
- 562 (562). Advanced Standard English Braille. (2:2:0) Arr. Prerequisite: E. R.S. 561. Staff
- 563 (563, 564). Problems in the Education of the Visually Handicapped. (3:3:0) Arr. Prerequisite: consent of instructor. Staff

Graduate Courses

- 630 (630). Corrective Teaching Techniques. (2:2:0) S.Su. Prerequisite: E.R.S. 612 or consent of instructor. Bauer, Krider, Wilson
- 662 (662). Workshop in Special Education. (4:4:0) Arr. Prerequisite: consent of instructor. Krider
- 664 (664). Special Education Services in Public Schools. (2:2:0) Arr. Su. only. Staff
- 666 (665, 666). Problems in the Education of Orthopedically Handicapped Children. (3:3:0) F.Su. Prerequisite: E.R.S. 560. Wilson
- 667 (661, 667). Problems in the Education of Mentally Retarded Children. (3:3:0) S.Su. Prerequisite: E.R.S. 560. Krider
- 668 (668). Observation and Participation in Special Education. (2:1:3) F.S. Su. Prerequisite: consent of instructor. Krider, Wilson
- 676, 677 (674). Practicum in Special Education. (2:0:6 ea.) S.Su. Prerequisite: consent of instructor. Krider, Wilson
- 678, 679 (674, New). Practicum in Corrective Teaching. (2:0:6 ea.) S.Su. Prerequisite: consent of instructor. Krider, Wilson
- 691 (660). Seminar in Special Education. (2:2:0) S.Su. Prerequisite: consent of instructor. Krider, Wilson

See also Instruction 624, Arts and Crafts for the Handicapped.

GENERAL COURSES**Upper Division Courses**

493, 494 (493, 494). Independent Readings. (1:1:3 ea.) F.S.Su. Staff

Graduate Courses

693, 694 (693, 694). Independent Readings. (1-2:1-2:2-4 ea.) F.S.Su. Staff

696, 697 (696, 697). Independent Research. (1:0:3 ea.) F.S.Su. Staff

698 (698). Field Project for Master's Degree. (2-4:Arr.:Arr.) F.S.Su. Staff

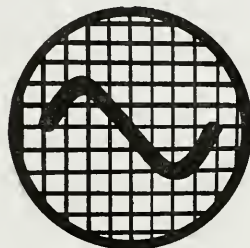
699 (699). Thesis for Master's Degree. (2-4:Arr.:Arr.) F.S.Su. Staff

798 (New). Field Project for Ed.D. Degree. (Arr.) F.S.Su. Staff

799 (New). Dissertation for Ph.D. Degree. (Arr.) F.S.Su. Staff

Professors: Bartholomew, Jonsson*.
Associate Professor: Monson (chairman, 175 ELB).
Assistant Professor: Woodbury.
Instructor: Chaston.

Electrical Engineering Science



This department offers a five-year program leading to the degree of Bachelor of Engineering Science in Electrical Engineering. An acoustical option is offered as an alternate course. The student completing the prescribed course of study will receive comprehensive training in electrical engineering, including the areas of communications, electronics, energy conversion, systems and circuits, measurements, and automatic control, in addition to the general and religious education given to all undergraduate students at Brigham Young University.

Entrance Requirements

In addition to having fulfilled the general entrance requirements of the University, a student entering this department should have completed 3 units of English and 3 units of high school mathematics which must include elementary algebra, intermediate algebra, and plane geometry.

Students who have not met these requirements must take extra remedial courses as prescribed by the chairman of this department before (through correspondence or summer school, perhaps) or concurrently with the regular outlined course of studies. Such a student will normally be required to spend more than five years to complete the prescribed program; preferably he should plan on college enrollment during the summer term prior to or following the freshman year.

The high school graduate of superior ability who has completed both college algebra and trigonometry and can demonstrate by examination his comprehension of these subjects may be assigned to the sophomore subjects of physics, calculus, and graphics and thereby complete the five year program in approximately four years. Normally he must plan on college enrollment during the summer term prior to or following the freshman year, but by taking a slightly more concentrated study load he may graduate at the end of the first semester of the fourth year.

Requirements for Major

To obtain a degree in electrical engineering, the student must complete the program as described below including the same general educational requirement which apply to the Bachelor of Science degree conferred by Brigham Young University. The following abbreviations are used: Ch.E., for Chemical Engineering; C.E., for Civil Engineering; E.E., for Electrical Engineering; and M.E., for Mechanical Engineering.

Grade Requirements

A student must have received an average grade of "C" or better in analytical geometry, calculus, and physics before being admitted as a regular third-year engineering student. A student who has not obtained this average but feels that he has the qualifications for undertaking engineering work may petition this department for special consideration. If his work subsequently proves unsatisfactory, he will be dropped from the department. Transfer students and advanced students who have been off the campus for one or more years should apply before June 1 to avoid possible rejection of admission due to deficiencies.

A cumulative average grade of "C" must be maintained in all advanced mathematics and engineering subjects; otherwise the student is placed on a probationary status in the department. No more than six hours of "D" credit in electrical engineering subjects will be counted in meeting the departmental requirement for majors.

General Education Group Requirements

Engineering science students are subject to all of the general education requirements listed elsewhere in this catalog, with the following exceptions:

- (1) They may take the required course in health education any time during the first or second year. One credit of this should always be cross-referenced with the religion requirements.
- (2) The biological science requirement is reduced to four semester-hours instead of the six semester-hours specified. This may be fulfilled in a single course if desired.
- (3) Maximum advantage should be taken of the cross-referencing of religion with other courses since such cross-referencing is assumed in making up the suggested schedule of classes below.

Engineering students may register for 18 hours, exclusive of physical education and the forum assembly, in any one semester without obtaining special permission.

No specific courses are recommended in the biological science and religion group requirement. However, it is particularly recommended that the electrical engineering science student include Economics 101 (Introduction to Economics) and Psychology 111 (General Psychology) as satisfying the social science group requirement.

Normal Sequence of Courses for Majors

First Year*	F	S	Economics 111, Psychology 111	3	3
Chemistry 105, 106	4	4	Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Math. 111, 112	5	5			
M.E. 100	1		Total Hours	$17\frac{1}{2}$	$17\frac{1}{2}$
English 111, 112	3	3			
Religion	4	2	Third Year	F	S
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Math. 315, 316	3	3
Health 130		2	E.E. 311, 312	5	4
Total Hours	$17\frac{1}{2}$	$16\frac{1}{2}$	E.E. 321		4
			E.E. 350		4
Second Year	F	S	Ch.E. 378	3	
**Physics 211, 213	4	4	C.E. 301		3
Physics Lab. 212, 214	1	1	Physics 313	3	
Math. 213, 214	5	5	Religion	4	
C.E. 101, 103	2	2			
Religion	2	2	Total Hours	18	18

***Fourth Year			***Fifth Year		
	F	S		F	S
E.E. 461		5	M.E. 310	3	
E.E. 431, 432	4	3	E.E. 462	4	
M.E. 327	3		E.E. 467	2	
E.E. 441, 442	5	4	E.E. 541	4	
C.E. 304, 303	3	3	E.E. 591, 592	1	1
Religion	2		Restricted Electives	2	5
			Group Electives		9
Total Hours	17	15	Total Hours	16	15

*Note entrance requirements above for possibility of reducing time required for graduation by the well-prepared and able student. Note also the consequence of improper high school preparation.

**Note that Math 112 is an absolute prerequisite to this course.

***By suitable prior scheduling of general education and technical courses, a student may find it possible to graduate at the end of the first semester of the fifth year.

Restricted electives which may be taken by approval of the department chairman include the following courses: Economics 461, Electrical Engineering 516, 523, 528, 531, 537, 538, 567, 568, 570, 598, any acoustics course; Business Management 340, 342; Physics 551, 552, 561, 562, 563, 564; and Psychology 330, 337.

Fifth Year Acoustical Option (Not offered 1960-61)

Program will be established in consultation with a prospective major student.

Upper Division Courses

301, 302 (301, 302, 303). Elements of Electrical Engineering. (4:3:3 ea.) F. S. Prerequisites: Physics 211, 213; Math 214. Staff

For students not majoring in electrical engineering. Study of electrical circuit theory, electrical machinery, and electronics.

311, 312 (311, 312, 313). Alternating-Current Circuits. (5:5:0; 4:4:0) F.S. Prerequisites: Physics 213; Math 214; concurrent registration in Math 315, 316. Staff

Steady-state alternating-current circuits; vectors; complex algebra; series and parallel impedance networks; resonant circuits; non-sinusoidal waves; Fourier analysis. Series parallel networks; coupled circuits; polyphase circuits; vector loci; network theorems; elementary filters; pole-zero theory. Electromechanical transients. Log modulus and phase plots; root-locus; feedback concepts.

321 (321, 322, 313). Electrical Measurements. (4:3:3) S. Prerequisites: Physics 211, 213; concurrent registration in E.E. 312. Staff

The theory, use, limitations, accuracy, and calibration of bridges, potentiometers, indicating, recording and digital instruments, and the application of analog and digital operations to electrical measurements and instrumentation.

350 (315, 350). Magnetics and Solid-State Electricity. (4:4:0) S. Prerequisites: Physics 315; Math 315; concurrent registration in E.E. 312, Math 316. Staff

Physical properties of crystalline solids, lattice vibration and energy, dielectrics, conduction, band theory, semiconductors, emission magnetism, resonance, and relaxation, conventional magnetic circuits and applications to the saturable reactor and magnetic amplifier.

- 431, 432 (431, 432, 433, 434). Electrical Machinery.** (4:3:3; 3:2:1) F.S. Prerequisites: E.E. 312, 350.

Direct-current motors and generators; single and polyphase transformers; alternating-current motors and generators; control system components; applications.

- 441, 442 (441, 442, 443, 461). Electronics and Transistors.** (5:4:3; 4:3:3) F. S. Prerequisites: E.E. 312, 350. Staff

A unified study of tubes and transistors with applications applied to rectifiers, basic and push-pull amplifiers, oscillators, modulation, detection and feedback.

- 461 (460, 462, 463). Lines and Microwaves.** (5:5:0) S. Prerequisite: concurrent registration in E.E. 442. Staff

The general transmission line and transmission networks; static and dynamic electric and magnetic fields using classical and vector mathematics; wave guides, antennas, wave propagation, generators.

- 462 (462, 463). Communication Systems.** (4:4:0) F. Prerequisite: E.E. 461. Staff

Circuits and systems used in television, radar, and radio engineering including microwave hardware and network theory.

- 467 (467, 468). Communications Laboratory.** (2:0:6 ea.) F. Prerequisites: E. E. 461; concurrent registration in E.E. 462. Staff

Devoted to building and testing circuits studied and designed in parallel theory courses.

Advanced Undergraduate or Graduate Courses

- 516 (511). Servomechanisms.** (3:3:0) Arr. Prerequisites: E.E. 312 and concurrent registration in E.E. 442, or E.E. 303; Mathematics 316; C.E. 302 or 304. Jonsson

Theory and application of electrical and electro-mechanical automatic control systems.

- 523 (523). Digital Computer Engineering.** (3:2:3) Arr. Prerequisite: fourth year standing as an engineer. Bartholomew

A study of the logical design and operation of digital computers.

- 528 (521). Analog Computer.** (2:2:0) Arr. Prerequisite: E.E. 302 or 442. Bartholomew

Theory and operation of summing, integrating, and differentiating circuits; function generators and operational amplifiers and their applications to analog computers. Also the application of signal-flow graphs to the analysis and simulation of analog computer systems.

- 531 (531). Power Systems.** (2:2:0) Arr. Prerequisite: E.E. 432. Bartholomew

The analysis and the design of electrical power distribution systems and a study of electrical power distribution system protection.

- 537, 538 (537, 538). Advanced Control Machinery Laboratory.** (1:0:3 ea.) S. Prerequisite: E.E. 462. Staff

Each of these courses constitutes a block of experiments in the area of machinery control systems, machinery characteristics and power distribution methods. Registration is permitted for either course or both courses simultaneously.

- 541 (541). Advanced Transistors.** (4:3:3) F. Prerequisite: E.E. 442. Staff

Theory and application of pulsed networks using transistors and other pulse shaping devices.

- 567, 568 (567, 568). Advanced Communications and Electronics Laboratory.** (1:0:3: ea.) S. Prerequisite: E.E. 462. Staff

Each of these courses constitutes a block of experiments in the area

of U.H.F. techniques, electronic circuits, communication systems, pulse forming networks, transmission lines and filters. Registration is permitted for either course or both courses simultaneously.

- 570 (550). Illumination.** (2:2:0) Arr. Prerequisites: E.E. 312, 441. Monson
Principles and design of artificial illumination for various applications; lamp characteristics; measurements; costs.
- 580 (550). Elements of Acoustics.** (2:2:0) Arr. Prerequisite: fifth year standing in Electrical Engineering. Monson
Brief course in the fundamentals of sound production, transmission, and reception with an introduction into sound application in public address and other engineering systems.
- 581 (581, 582, 583). Psycho-Acoustics.** (4:4:0) Arr. Prerequisite: E.E. 442. Staff
Speech and hearing from a communication engineering viewpoint. Symmetrical analysis of speech and hearing processes are developed. Known experimental facts about speech and hearing are systematically studied and compared with calculated results. Methods of calculating and measuring articulation index of talker-listener pair when using any specified type of communication system.
- 584, 585 (584, 585, 586). Advanced Musical Acoustics.** (2:2:0 ea.) Arr. Prerequisites: Physics 561, 562, or E.E. 580. Staff
Technical study of acoustical behavior of different musical instruments, consideration of sound power output of single instruments and ensembles, stereophonic reproduction of music, possibilities of electronic musical instruments.
- 587 (587). Architectural Acoustics.** (3:3:0) Arr. Prerequisites: Physics 211, 212. Staff
Fundamental behavior of sound in rooms; effects of shape and size upon perception of speech and music; proper use of public address and sound reinforcing systems, sound absorption and insulation properties of different kinds of room walls; kinds and amounts of sound absorption materials to use in sound treatment of rooms and auditoriums.
- 591, 592 (591, 592, 593). Seminar and Field Trips.** (1:0:3 ea.) F.S. Prerequisite: fifth year standing in electrical engineering. Staff
Student and faculty presentation of special topics and subject of current interest; visits to industries displaying varied types of electrical engineering applications. Participation on the annual field trip is required
- 598 (594, 595, 596). Special Problem.** (Arr.) F.S. Staff
Registration by permission of professor sponsoring problem. A maximum of two credit hours may be applied toward filling the restricted elective requirement.

English



Professors: B. Clark (chairman, 305 McKay), Christensen, Farnsworth, Hart, Jacobs, Rice, Young.

Associate Professors: Britsch, Carroll (emeritus), Cheney, M. Clark, Larson, Monson, Spears, Tanner.

Assistant Professors: Craig, Ellsworth, McKendrick, Olson, Smart, Thomas, Thomson, West, Wood.

Instructors: Alder, Bailey, Blair, Brady, Cox, Dunn (emeritus), Esplin, Evans, Grass, Harris, Horton, Hyde, Hyman, Madsen, Mitchell, Morrell, Nielsen, Richards, Statham, Taylor, Thayer, Waterstradt.

Freshman English

(Marshall Craig, director)

Placement Test. All freshmen are required to take an English placement test at the time of registration.

Freshman Composition. To satisfy the University requirement for freshman composition, all students must complete one of the following sequences: English 111 (or 110), 112; or English 115, 116. Assignment is made on the basis of performance in the placement test. Students who demonstrate a need for remedial work take English 110, 112; students who demonstrate satisfactory ability take English 111, 112; students who demonstrate exceptional ability take English 115, 116; students who demonstrate ability below that expected of college freshmen are required to take English 10 (special fee \$10.00) and to pass satisfactorily another placement test before registration in freshman composition. All students are required to take freshman composition during both semesters of the freshman year unless they are excused by the director of freshman English.

Scope of Instruction

The English Department offers courses in writing, literature, and the English language as follows: writing, remedial and methodology courses; grammar, word study, and language courses; novel courses; drama courses; comparative and world literature courses; American literature courses; combined American and English literature courses; English literature courses; and single author courses.

Requirements for an English Major

The department requirement for a major is that a student complete at least thirty hours in English beyond freshman composition. The following program is prescribed (plus additional upper division credits to bring the total to thirty hours):

	Hours
A. 251, Fundamentals of Literature for Majors and Minors	3
B. 362, Major Figures of the American Renaissance	3
C. One of the following period courses in American Literature.....	3
361, American Literature to the Civil War.	
363, American Literature since the Civil War.	

D. English Period courses or authorized substitutes10-12

A major is expected to complete classes in four of the five periods of English literature. At least two of the regular period courses (371, 372, 373, 374, 375) are required; substitutes may be taken as authorized below for one or both of the other two periods:

481 for 371; 541 for 372; 542 for 373; 332 for 375.

E. 382, Shakespeare 3

F. Grammar, history of the English language, or literary criticism 3

This requirement, especially for those majors who plan to teach English in high school or college, will ordinarily be met by their taking English grammar, although either of the other courses listed below may be substituted with the approval of the department chairman or the student's departmental adviser: English 221, 521, 550.

G. 490, Senior Seminar for English majors 2

The department provides a reading list which the English major should obtain and begin to employ early in his academic program. During the semester prior to his graduation, he will be given a departmental examination based on the reading list, the Senior Seminar, and his over-all major program.

In addition to the University requirements for graduation and the departmental requirements for a major, each English major is expected to complete sixteen hours in one foreign language.

Requirements for a Teaching Major in English

The requirements for a teaching major in English and for the regular major are the same except that the foreign language requirements may be reduced or waived by the department to meet the special needs of some prospective teachers. Such reduction or waiver would necessitate, of course, the substitution of the Bachelor of Science degree for the degree of Bachelor of Arts.

English is one of the subjects comprising the composite major in language arts designed for prospective teachers.

Requirements for a Minor in English

All students minoring in English are expected to complete English 251, preferably in the sophomore year, and to take at least eleven additional hours of work in English beyond freshman composition (a total of fourteen hours plus freshman English). Teaching minors should consult the College of Education section of this catalog for special course requirements. Non-teaching minors in English should select their English courses in consultation with their major department advisers and with the English Department.

Graduate Work in English

A graduate student may major in either American or English literature; he may minor in a subject outside the English Department or in English literature, American literature, or language. It is assumed that anyone granted a Master of Arts degree in English will be well-grounded in the entire field of English and also well-trained in his graduate major and minor.

Each student should check the departmental requirements for an undergraduate major in English and make up the deficiencies in his undergraduate program insofar as possible.

Among the thirty hours required for a Master of Arts degree, each student must take the following courses:

	Hours
A. 615, Bibliography and Methods of Research	1
B. 525, Old English	3

The following courses must also be included if the student did not have

them as an undergraduate:

- A. 521, The History of the English Language 3
 B. 550, The Criticism and Appreciation of Literature 3

In fulfilling the thesis requirements for a master's degree in English, a student may select any one of the following three options:

- (1) One long thesis on a topic demanding research, criticism, or both;
- (2) Three long papers written in three different areas of English or American language or literature and on topics demanding research, criticism, or both;
- (3) Two long papers written in two different areas of English or American language or literature and on topics demanding research, criticism, or both; and one long paper in the area of imaginative writing.

The work done under any of the above three options is under the direction of the student's advisory committee and must fulfill all of the requirements of form, date of submission, and binding that apply to regular master's theses.

The department stipulates that two hours of "B" grade or better in the series of English 318 and 319, or the equivalent directed experience in writing, be regarded as prerequisite for application to use imaginative writing as part of option (3) listed above. With this application, the student must forward to the graduate committee in English samples of his best writing in order that the committee may determine whether he is qualified to use imaginative writing as part of his thesis requirement.

General Education

A student filling his general education requirement in literature under the humanities and aesthetics requirement may take any literature course for which he has the proper background. See also Humanities 101.

Remedial Courses

- 10 (10). Preparatory English. (0:2:0) F.S. Craig, Staff
 Drill in essentials of English for all students not prepared for English 110 or 111. Students who complete course must pass placement test before registering for English 111. (Fee \$10.00)
- 15 (15). Remedial English for Juniors. (0:3 for ½ semester:0) F.S.Su. (Fee \$15.00) Monson, Staff
- 20 (20). Remedial Reading. (0:3:0) F.S. M. Clark, Olson
 Non-credit service course utilizing modern clinical methods in developing reading speed and comprehension. (Extensive help in developing reading skills is offered also by the Counseling Service. In addition, a non-credit course in developmental reading is offered through Adult Education and Extension Services.)
- 55, 56 (105, 106, 107). English for Bilingual Students. (0:5:0 ea.) F.S. Staff
 Service course for foreign students who are learning English. (This course may not be used to apply to an English minor, nor does it satisfy the freshman English requirement.)
- 99 (99). Problems in Thesis Writing. (0:2:0) F.S.Su. Staff

Freshman Composition Courses

(These courses may not apply to the English minor.)

- 110 (110). Composition and Reading. (3:5:0) F.S. Craig, Staff
 Same course and credit as English 111, but meets two additional days a week for the first half of the semester. For students who need additional help in freshman composition.

- 111, 112 (111, 112, 113). Composition and Reading.** (3:3:0 ea.) F.S.Su. Home Study also. Craig, Staff
Course in reading and writing designed for development of skills of effective writing, of critical awareness of the resources of the language, and of skill in reading rapidly and critically. Review of grammar, readings, weekly themes, and long library paper.

- 115, 116 (115, 116). Composition and Reading.** (2:2:0 ea.) F.S. Craig, Staff
Alternate course to English 111, 112 designed for students who show superior ability and training in composition. Students who receive a grade of "C" or lower in English 116 will be required to take English 215 to complete the general education requirement for freshman composition.

Lower Division Courses

- 215 (215). Expository Writing.** (2:2:0) F.S. Prerequisite: English 112 or 116
Hart, Staff
Basic composition course intended to develop clarity, precision, and style in factual writing.
- 216 (216). Technical Writing.** (2:2:0) F.S. Prerequisite: English 112 or 116.
Bailey, Staff
Composition course intended to develop accuracy and skill in writing and documenting library or laboratory research reports.
- 218 (218). Imaginative Writing.** (2:2:0) F.S.Su. Home Study also. Prerequisite: English 112 or 116.
Larson, Staff
Composition course intended to develop expressive skill and power through writing of short stories, poems, dramas, and/or informal essays.
- 221 (221). English Grammar.** (3:3:0) F.S.Su. Home Study also. Prerequisite: English 112 or 116.
Young, Staff
- 225 (225). Vocabulary Building.** (2:2:0) F.S.Su. Home Study also.
Young, Staff
Service course intended to develop an effective vocabulary through study of prefixes, suffixes, and roots.
- 226 (226). Semantics.** (1:1:0) F. Thomas, McKendrick
Study of function of words in written and spoken communication.
- 250 (250). Introduction to Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA)
Evans, Farnsworth, Staff
Study of various types of literature—short story and novel, poetry, essay, biography, and drama—with a critical reading and analysis of significant examples of each type.
- 251 (251). Fundamentals of Literature for Majors and Minors.** (3:3:0) F.S.Su. Home Study also. Prerequisite: English 112 or 116.
B. Clark, Staff
Required of all English majors and minors.
Basic course in literary appreciation and criticism, literary terminology, and writing. Should be taken in the sophomore year.
- 252 (252). Introduction to Poetry.** (2:2:0) F.S. (G-HA)
Evans, Hart, Larson
Appreciation course in poetry, emphasizing critical reading and analysis of significant poems of various types.
- 253 (253). Introduction to Drama.** (2:2:0) F.S. (G-HA)
Monson, Tanner, Waterstradt
Appreciation course in drama, with attention given to various forms—tragedy, comedy, farce, melodrama, and modern problem play—and with a critical reading of famous examples of each type.
- 254 (254). Introduction to Biography.** (2:2:0) S. Young
Study of short biographies of some famous statesmen, patriots, adven-

turers, scientists, inventors, painters, writers, and others, including Hitler, Napoleon III, George III, Edison, Wilson, Jefferson, Lincoln, John Brown, Goethe, Gauguin, the Curies, and Dolly Madison.

- 256x (256x). **Classic Myths.** (3) Home Study only. (G-HA) Carroll
This course is planned to acquaint the student with the great characters and stories in classical mythology and to study their relationship to literature and their bearing upon other parts of modern culture and life.
- 260 (261, 262, 263). **Masterpieces of American Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA) Thomson, Staff
Selected readings in American literature from colonial times to the present.
- 270 (271, 272, 273). **Masterpieces of English Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA) Tanner, Staff
Selected readings in English literature from medieval times to the present.
- 282 (282). **Shakespeare.** (2:2:0) F.S.Su. Home Study also. (G-HA) Young, Staff
Appreciation course in Shakespeare, with an interpretive reading of eight of his great dramas.

Upper Division Courses

- 318, 319 (318, 319, 320). **Advanced Imaginative Writing.** (2:2:0 ea.) F.S. 318—Home Study also. Prerequisite: English 218 or special permission of the instructor or the department chairman. Larson, Staff
Composition course intended to give experienced student writers opportunity to further develop their skills in writing poetry, fiction, and drama.
- 331 (331). **The English Novel to 1832.** (2:2:0) F. Home Study also. (G-HA) B. Clark, Rice
English prose fiction to beginning of Victorian period, with emphasis on Defoe, Richardson, Fielding, Smollett, Sterne, Scott, and Austen.
- 332 (332). **The English Novel from Dickens to Hardy.** (2:2:0) S. Home Study also. (G-HA) Brady, B. Clark
English novel from 1832 to 1900, with emphasis on Dickens, Thackeray, Trollope, the Brontes, George Eliot, and Hardy.
- 333 (333). **The Modern English Novel.** (2:2:0) F. Home Study also. (G-HA) B. Clark
English novel from 1890 to the present, with emphasis on Hardy, Conrad, Bennett, Galsworthy, Lawrence, Maugham, Joyce, Woolf, and several contemporary novelists.
- 335 (335). **The American Novel to Dreiser.** (2:2:0) F. Home Study also. (G-HA) Jacobs, Olson
Nineteenth century American novelists, with emphasis on Cooper, Hawthorne, Melville, Twain, Howells, and James.
- 336 (336). **The Modern American Novel.** (2:2:0) S. Home Study also. (G-HA) M. Clark, Jacobs
Twentieth century American novelists, with emphasis on Dreiser, Cather, Lewis, Hemingway, Faulkner, Steinbeck, Wolfe, and Fitzgerald.
- 338 (New). **The European Novel.** (3:3:0) F. (G-HA) Staff
The works of the principal European novelists, including Balzac, Stendhal, Flaubert, Zola, Gogol, Turgenev, Dostoevsky, Tolstoy, Mann, and others.
- 345 (345). **The Spirit of Tragedy in Literature.** (3:3:0) S. (G-HA) Christensen
Study of tragedy as experienced in drama from the Greeks to the present time.

- 346x (346x). **Greek Life and Drama.** (2) Home Study only. (G-HA) Carroll
Ancient Greek mythology and civilization and some of the dramas by
Aeschylus, Sophocles, Euripides, and Aristophanes.
- 350 (350). **The Bible as Literature.** (2:2:0) F.S.Su. Home Study also. (G-HA;
G-R) Prerequisite: English 250 or 251. Thomas, Staff
- 355 (356). **World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
Greek and Roman epic and drama in translation, with emphasis on
works of Homer, Aeschylus, Sophocles, Euripides, and Virgil.
- 356 (357). **World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
European classics of the Middle Ages and Renaissance in translation,
with emphasis on the Divine Comedy.
- 357 (358). **World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
European masterpieces of neoclassicism and romanticism in translation,
including works of Moliere, Racine, Voltaire, and Goethe.
- 358 (New). **World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
European masterpieces of realism, naturalism, and symbolism in trans-
lation, including works of Balzac, Flaubert, Dostoevsky, Tolstoy, Ibsen,
Gide, Mann, and Proust.
- 359 (359). **The Short Story.** (2:2:0) F.S.Su. Home Study also. (G-HA)
Cheney, B. Clark
Critical study of selected great short stories—American, English, and
European—with emphasis on 20th century stories.
- 361 (361). **Early American Literature.** (3:3:0) F. (G-HA)
Jacobs, Thomas, Thomson
American literature from beginning to Civil War, with emphasis on
Colonial Puritanism, the Enlightenment, Nationalism and Romanticism.
(Does not include authors studied in English 362.)
- 362 (362). **American Renaissance.** (3:3:0) F.S.Su. (G-HA) Jacobs, Staff
Readings in major figures of the American Renaissance: Emerson, Haw-
thorne, Thoreau, Whitman, and Melville.
- 363 (363). **Later American Literature.** (3:3:0) S.Su. (G-HA)
M. Clark, Jacobs, Thomas, Thomson
American literature from Civil War to present, with emphasis on
Realism, Local Color, and Naturalism.
- 366 (366). **Modern Poetry.** (2:2:0) F. Home Study also. (G-HA)
Hart, Larson
Major English and American poets of the 20th century.
- 367 (367). **English and American Folk Poetry.** (2:2:0) S. (G-HA) Cheney
English and Scottish ballads and American folk songs.
- 371 (371). **English Literature to 1500: the Medieval Period.** (3:3:0) F. (G-HA)
Christensen
English literature from beginnings to 1500, with emphasis on its rela-
tionship to other European literatures.
- 372 (372). **English Literature from 1500 to 1660: the Renaissance Period.**
(3:3:0) S. (G-HA) Young
English dramatic and non-dramatic poetry and English prose of Renais-
sance period, including Milton but excluding Shakespeare.
- 373 (373). **English Literature from 1660 to 1780: the Neo-Classical Period.**
(3:3:0) F. (G-HA) Hart, Monson, Rice
English literature from Restoration through Augustan Age of Reason to
beginnings of Romanticism, including works of Dryden, DeFoe, Swift,
Fielding, Pope, and Johnson.

- 374 (374). English Literature from 1780 to 1832: the Romantic Period.** (3:3:0)
F.S.Su. Home Study also. (G-HA) Cheney, B. Clark, Tanner
English literature of Age of Romanticism, including works of Blake,
Wordsworth, Coleridge, Scott, Lamb, Byron, Shelley, and Keats.
- 375 (375). English Literature from 1832 to 1900: the Victorian Period.** (3:3:0)
F.S.Su. (G-HA) Britsch, B. Clark, Farnsworth, Hart
English literature of middle and later 19th century, including works of
Carlyle, Ruskin, Dickens, Browning, Tennyson, Arnold, the Rossettis, Mor-
ris, Swinburne, Meredith, and Hardy.
- 376 (376). Twentieth Century English Literature.** (2:2:0) S. (G-HA)
B. Clark, Hart, Larson
Major English poets, dramatists, and fiction writers of our century.
- 382 (382). Shakespeare.** (3:3:0) F.S. (G-HA) Christensen, Young
Five or six major plays studied intensively.
- 385x (385x). Tennyson.** (2) Home Study only. Carroll
The chief writings of Tennyson are studied, along with background and
critical materials.
- 386x (386x). Browning.** (2) Home Study only. Carroll
Browning's major poems are studied, along with the influences of the
poet's time and critical writings concerning them.
- 476x (476x). Victorian Poetry.** (2) Home Study only. Carroll
A study of the poetry of the major writers of the Victorian Period, such
as Browning, Tennyson, Arnold, Swinburne, etc.
- 477x (477x). Victorian Prose.** (2) Home Study only. Carroll
The writings of outstanding essayists, novelists, and dramatists of the
Victorian Period are considered.
- 481 (481). Chaucer.** (3:3:0) F. (G-HA) Christensen
- 483 (483). Milton.** (2:2:0) S. (G-HA) Christensen
- 487 (487). Matthew Arnold.** (2:2:0) F. (G-HA) Christensen
- 490 (490). Senior Seminar for English Majors.** (2:2:0) F.S.Su. Staff
- 495, 496 (495, 496, 497). Individual Readings.** (1-2:2-8:0 ea.) F.S.Su. Staff
Available only to English majors and students on foreign tours. English
majors in residence will be limited to a maximum cumulative total of 2
credit hours, students on tour to a maximum total of 4 credit hours.

Advanced Undergraduate or Graduate Courses

- 500-509 (400-409). Eminent American Writers.** (1:1:0 ea.) F.S.
M. Clark, Staff
Different writers are treated each year in this series.
- 510-519 (410-419). Eminent English Writers.** (1:1:0 ea.) F.S.
McKendrick, Staff
Different writers are treated each year in this series.
- 521 (521). History of the English Language.** (3:3:0) S. Christensen
Course descriptive of the English language in various stages of its de-
velopment, with background of related historical events.
- 525 (525). Old English.** (3:3:0) F. Undergraduate prerequisite: approval of
instructor. Young
- 526 (526). Middle English.** (2:2:0) S. Undergraduate prerequisite: approval of
instructor. Christensen, Monson

- 541 (541). **English Drama to 1642.** (2:2:0) F. Young
Religious drama of the Middle Ages, court plays, and popular drama of the Renaissance, excluding Shakespeare.
- 542 (542). **Restoration and Eighteenth Century Drama.** (2:2:0) S. Rice
English drama from 1660 to 1800, with emphasis on high comedy, sentimental comedy, and heroic tragedy.
- 543 (543). **Modern English and American Drama.** (2:2:0) F. Tanner
Major English and American dramatists since 1890.
- 550 (550). **The Criticism and Appreciation of Literature.** (3:3:0) S. Hart, Thomas
Study of critical theories and standards of value.
- 582 (New). **Extended Readings in Shakespeare.** (3:3:0) F.S. Young, Staff
Extensive study of the body of Shakespeare's works.

English Education

- 377 (377). **Secondary Teaching Procedures.** (3:3:3) F.S. Prerequisite: Instruction 301 or E.R.S. 305 or equivalent. West
For course description and fee see Instruction 377.
- 479 (479). **Secondary Student Teaching.** (4-8:1:20-30) F.S. Prerequisite: English Education 377. West
For course description and fee see Instruction 479.

Graduate Courses

- 615 (615). **Bibliography and Methods of Research.** (1:1:0) F.Su. Larson
- 625 (625). **Beowulf.** (2:2:0) S. McKendrick
- 631 (631). **The English Novel.** (2:2:0) F. B. Clark
- 635 (635). **The American Novel.** (2:2:0) S. M. Clark, Smart
- 641 (641). **The English Drama.** (2:2:0) S. Craig
- 661 (661). **Colonialism and Puritanism in American Literature.** (2:2:0) S. Jacobs
- 662 (662). **Romanticism in American Literature.** (2:2:0) F. Thomas
- 664 (664). **Realism and Naturalism in American Literature.** (2:2:0) F. Jacobs, Thomas, Thomson
- 671 (671). **The Medieval Period in English Literature.** (2:2:0) S. Christensen
- 672 (672). **The Renaissance in English Literature.** (2:2:0) F. Larson, Young
- 673 (673). **Neo-Classicism in English Literature.** (2:2:0) S. Hart, Rice
- 674 (674). **Romanticism in English Literature.** (2:2:0) F. B. Clark
- 675 (675). **The Victorian Age in English Literature.** (2:2:0) S. Farnsworth
- 682 (682). **Shakespeare.** (2:2:0) F. Hart
- 691 (New). **Research in Folklore.** (2:2:0) S. Cheney
Directed study and research in folk tales, folk poetry, etc., especially as they are related to the Mormon heritage and tradition.
- 695 (695). **Individual Readings in English.** (1-2:1-4:0) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff

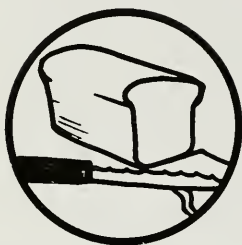
Food and Nutrition

Professors: Morris, Trunnell.

Associate

Professor: Bennion (chairman, 2218 SFLC).

Instructors: Brasher, Bryner, Riggs, Sovine.



The Department of Food and Nutrition is organized to help the student understand the basic principles which underlie the role played by food in the maintenance of optimum health and the preparation of food of high culinary and nutritive quality. Application of principles is made through the planning, preparation, serving, and evaluation of attractive and nourishing family meals and through the preparation and evaluation of single items under experimentally controlled conditions. The selection of foods to meet human nutritional needs is justified theoretically and practically.

Courses in this department provide background for training in such professional fields as hospital dietetics, public health nutrition, school lunch or restaurant administration, test kitchen work, food demonstration, college teaching, and research.

The courses in this department are planned to be of value to both men and women.

For majors in food and nutrition a minimum of 24 credit hours in the department is required. For graduation from the College of Family Living these hours must be combined with enough credits in the college to total 35 hours. Included in these 35 hours shall be a total of 12 hours from the following departments with at least three hours being taken from each department: Clothing and Textiles, Housing and Home Management, and Human Development and Family Relationships.

Suggested Program for Majors

Freshman Year		Sophomore Year	
	Hours		Hours
Religion*	4	Religion*	4
English* (determined by placement test)	6	Chemistry 284*	4
Physical Education and Health*	3	Physics 100*	3
Chemistry 101, 102*	10	Bacteriology 331*	4
Psychology 111*	3	Zoology 164*	3
Zoology 105*	3	Art*	2
Homemaking Education 91	0	Economics 101*	3
Food and Nutrition 110**	2	Human Dev. and Family Rel. 210*	3
		Food and Nutrition 264, 265*	4
		Electives	3-4

Junior Year		Senior Year	
	Hours		Hours
Religion*	4	Religion*	4
History 170 or 180*	3	Humanities and Aesthetics	2-3
Humanities and Aesthetics	2-3	E.R.S. 304	2
Housing and Home Management 235	3	Family Living (courses toward 35 credit-hour requirement) ..	4-5
Family Living (courses toward 35 credit-hour requirement) ..	2-3	Food and Nutrition 470, 564, 590*	8
Food and Nutrition 335, 340, 345*	10	Food and Nutrition Electives	2-3
Electives	6-8	Electives	8-9

***Required**

****Food and Nutrition 110** need not be taken if the student passes a qualifying examination given by the Department of Food and Nutrition.

Students preparing for a dietetic internship must elect Food and Nutrition 455 and 472; Accounting 101; E.R.S. 304; and Psychology 330.

A postgraduate internship of twelve months is required for positions in hospital dietetics. Certain centers have been approved by the American Dietetic Association to give internship training. A list of these centers, as printed by the American Dietetic Association, is available in the office of the department chairman.

Students preparing for positions in business should elect Instruction 406, Journalism 101, and Speech 101 or 102.

Additional courses in other departments that are recommended for students in food and nutrition are Bacteriology 361, Chemistry 220, Instruction 406, and Housing and Home Management 350.

Lower Division Courses

110 (110). Introductory Food and Nutrition. (2:1:2) F.S. Home Study also. Staff

Open to all students. Designed to develop an understanding of food in relation to health. Accepted techniques of food preparation for maximum retention of nutritive value are taught through laboratory experiences.

115 (115). Essentials of Nutrition. (2:2:0) F.S. Home Study also. For non-majors. Staff

Basic concepts of human nutrition and their application in achievement and maintenance of optimum health.

210 (210). Variations in Food Preparation. (2:0:4) S. Prerequisite: Food and Nutrition 110. Staff

Different ways of preparing and using a wide variety of foods. Preparation of some foreign dishes.

235 (235). Meal Planning and Serving. (3:1:5) S. Home Study also. Prerequisite: Food and Nutrition 110. Majors in food and nutrition and students planning to teach homemaking should register for Food and Nutrition 340. Fee \$3.50. Bryner

Study of problems involved in planning and serving family meals with emphasis on buying of food. Experience with various types of meal service on different incomes.

245 (245). Nutrition of Mother and Child. (2:2:0) F. Morris

Open to all students. The nutritional needs of expectant mothers, infants, and children and the proper choice of food to meet these needs.

- 255 (255, 256). **Fundamentals of Nutrition.** (3:2:2) F.S. Prerequisites: Food and Nutrition 110; Zoology 105 or 164; Chemistry 102. For non-majors. Majors should elect Food and Nutrition 335. Morris
Basic concepts of human nutrition at all ages. Achievement and maintenance of optimum health for all family members.
- 264 (264). **Introduction to Experimental Cookery.** (2:2:0) F.S. Prerequisites: Food and Nutrition 110; Chemistry 102; Bacteriology 121 or 331; concurrent registration in Food and Nutrition 265. Bennion
How's and why's of food preparation. Comparison of products prepared when kind or proportion of ingredients or method of manipulation is varied.
- 265 (265, 330). **Introduction to Experimental Cookery, Laboratory.** (2:0:4) F. S. Prerequisite: concurrent registration in Food and Nutrition 264. Staff

Upper Division Courses

- 335 (335, 336). **Nutrition.** (5:4:2) F. Prerequisites: Food and Nutrition 110; Zoology 164; and Chemistry 284 or equivalent. Morris
A detailed study of the essential nutrients and their functions in nutrition; how to determine and satisfy the food needs of the normal individual.
- 340 (340). **Meal Management.** (3:1:6) F.S. Prerequisites: Economics 101; Food and Nutrition 255 or 335, and 264. Fee \$3.50. Bryner
Organization and management of time, energy, and finances in planning and preparing family meals. Experience in use of various types of service.
- 345 (345). **Child Nutrition.** (2:2:0) S. Prerequisite: Food and Nutrition 255 or 335. Morris
Application of principles of nutrition to feeding of expectant mothers, infants, and children.
- 370 (370). **Food Management for Large Groups.** (2:1:3) F. Prerequisite: Food and Nutrition 110 or equivalent. Sovine
Open to all students. Practical experience in preparation of food for community groups. Emphasis on organization and management and adaptation to available facilities.
- 455 (455). **Nutrition in Disease.** (3:2:2) S. Prerequisite: Food and Nutrition 335. Morris
The role of nutrition in times of stress and special need and as a therapeutic aid in treatment of disease.
- 470 (470). **Quantity Food Preparation.** (3:2:4) F. Prerequisites: Food and Nutrition 264 and 340. Sovine
Practical experience in menu planning, food purchasing and preparation for large groups. Use, operation, and maintenance of equipment.
- 472 (472, 474). **Food Management in Institutions.** (3:1:8) S. Prerequisite: Food and Nutrition 470. Sovine
Management of financial and personnel problems, planning of institution kitchens, and selection of equipment. Field trips, observations, and practical experience.

Advanced Undergraduate or Graduate Courses

- 535 (535). **Advanced Human Nutrition.** (2:2:0) S. Prerequisite: Food and Nutrition 335 or equivalent. Morris
An advanced study of the principles of human nutrition.
- 564 (564). **Experimental Cookery.** (3:2:3) F. Prerequisites: Food and Nutrition 264; Chemistry 284. Bennion
An advanced study of the structure of food and the chemical and physical changes occurring during processing and preparation.

- 566 (566, 568). **Chemistry Applied to Food.** (2:2:0) Not offered 1960-61.
Bennion
Understanding quality in prepared food. Composition of food and practices followed in preparation are related to the colloidal nature of food and to chemical and bio-chemical reactions involved.
- 590 (590). **Readings in Food and Nutrition.** (2:2:0) F. Prerequisite: 10 credit hours in food and nutrition or consent of instructor.
Staff
- 594 (594). **Special Problems in Food.** (1-2:0:3-6) S. Prerequisite: permission of instructor and chairman of department. Designed for students who have completed at least 12 hours in food and nutrition including Food and Nutrition 590.
Staff
Independent study of a special problem in food under direction of an instructor.
- 595 (595). **Special Problems in Nutrition.** (1-2:0:3-6) S. Prerequisite: permission of instructor and chairman of department. Designed for students who have completed at least 12 hours in food and nutrition including Food and Nutrition 590.
Staff
Independent study of a special problem in nutrition under direction of an instructor.

Graduate Courses

- 645 (630). **Advanced Child Nutrition.** (2:2:0) Arr. Prerequisites: Food and Nutrition 335 and 345 or equivalent.
Morris
- 664 (644, 646). **Science and Experimental Foods.** (3:2:3) Arr. Prerequisite: Food and Nutrition 564.
Bennion
Protein foods; simple colloidal systems; gels, emulsions, and foams.
- 666 (646, 648). **Science and Experimental Foods.** (3:2:3) Arr. Prerequisite: Food and Nutrition 564.
Bennion
Batters, doughs, and starch-thickened products.
- 672 (622). **Recent Advances in Foods.** (2:2:0) Arr. Prerequisite: Food and Nutrition 564 or equivalent.
Bennion
- 675 (625). **Recent Advances in Nutrition.** (2:2:0) Arr. Prerequisite: Food and Nutrition 535 or equivalent.
Morris
- 690 (696). **Seminar in Food.** (1-2:1-2:0) F.
Staff
- 691 (697). **Seminar in Nutrition.** (1-2:1-2:0) S.
Staff
- 694 (694). **Independent Project in Food and Nutrition.** (1-3:0:3-9) Arr. Prerequisite: Food and Nutrition 695 or 696.
Staff
- 695 (684). **Methods of Research in Nutrition.** (2:1:4) F. Prerequisite: Food and Nutrition 535.
Staff
- 696 (685). **Methods of Research in Foods.** (2:1:4) Arr. Prerequisite: Food and Nutrition 564.
Staff
- 699 (699). **Thesis for Master's Degree.** (2-4:2-4:0)
Staff

Forestry

(See Courses in Botany.)

Forum Assemblies



Herald R. Clark (in charge)

(An inter-departmental area only)

In 1958 Brigham Young University inaugurated a weekly series known as Forum Assemblies. Purpose of the assemblies is to bring to our campus men and women of recognized pre-eminence in their chosen fields and to hear their stimulating messages. Among those appearing in 1959-60 were General Carlos Romulo, Vincent Price, Vincent Sheean and others of similar stature.

One-half hour credit per semester or one hour per year may be earned by registering for and attending a minimum of eleven forums each semester. Attendance is based on the honor system. Forum Assembly credit may be carried above the normal class load. Grading, on a "pass" basis, will have no effect on grade point average. Students must register for Forum Assemblies on the basis of their standing as freshmen, sophomores, juniors, or seniors. All students are encouraged to attend these provocative, intellectually rewarding assemblies.

Lower Division Courses

101, 102. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.

Forum Lecturers

Open to freshmen students only. In order to obtain credit for this course, students must complete both semesters.

201, 202. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.

Forum Lecturers

Open to sophomore students only. In order to obtain credit for this course, students must complete both semesters.

Upper Division Courses

301, 302. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.

Forum Lecturers

Open to junior students only. In order to obtain credit for this course, students must complete both semesters.

401, 402. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.

Forum Lecturers

Open to senior students only. In order to obtain credit for this course, students must complete both semesters.

Associate Professor: Fisher (chairman, 366 McKay).

Geography

Assistant Professors: Layton, Millett, Tuttle.



The Department of Geography serves three classes of students: (1) professional major students, (2) non-professional major students who wish to build a broad cultural education around a central interest in geography, and (3) students majoring in other fields who wish some acquaintance with the contribution of geography to the understanding of the world and its problems.

For majors, the department provides background for work in the following general fields of specialization: area analysis, cartography, and teaching.

The following courses in geography are required for a major:

Lower division: Geography 101, 211, 231; Geology 101 and 102 or 111.

Upper division: Geography 351, 401, 504, 598; at least two of the following regional courses: 455, 460, 470, 475, 480; at least two of the following systematic courses: 441, 522, 533; and electives in geography to make a total of 30 hours.

Lower Division Courses

- 101 (105). Introduction to Geography.** (3:3:0) F.S. Home Study also. (G-SS) Tuttle

A general survey of the distribution of, and the processes concerned with, the different factors of man's natural environment, i.e., landforms, climate, soils, natural resources.

- 120 (110). Geography and World Affairs.** (3:3:0) F.S. Home Study also. (G-SS) Staff

A survey of the world stressing the human and economic geography of major political regions.

- 153 (121). Geography of Utah.** (2:2:0) S. Layton

The distribution of climates, landforms, vegetation, agriculture, mining, manufacturing, and service industries as related to present population and future growth patterns in Utah.

- 211 (275). Introduction to Maps and Air Photos.** (2:1:2) F. Layton

Maps and air photos as tools for teaching and research. Sources of maps and photos and practice in their use.

- 231 (223). Economic Geography.** (3:3:0) F.S. Home Study also. (G-SS)

Layton

A brief survey of the world's resource pattern. Origin, importance, and

movement of major agricultural and mineral commodities in world affairs.

Upper Division Courses

- 305 (305). **Physiography of North America.** (2:2:0) S. Offered 1960-61 and alternate years. Prerequisite: consent of instructor. Tuttle
A study of the characteristics of the landforms and the processes which brought them into being.
- 312 (303). **Map Drawing.** (2:0:4) S. Layton
Maps as a means of recording information. Methods of illustrating various types of data and preparation of maps for reproduction and publication.
- 332 (360). **World Mineral Resources.** (2:2:0) S. Offered 1960-61 and alternate years. Prerequisite: Geography 231. Layton
Geography of reserves, production, and uses of the world's major metallic and non-metallic minerals.
- 351 (310). **North America.** (3:3:0) F.S. Home Study also. (G-SS) Tuttle
A study of the United States and Canada including climates, landforms, natural resources, agriculture, and industries.
- 401 (401). **Geography of Climates.** (2:2:0) Offered 1961-62 and alternate years. Prerequisite: Geography 101 or consent of instructor. Tuttle
A study of the elements, controls, distribution, and classification of the climates of the earth.
- 441 (584). **Political Geography.** (3:3:0) F.S. (G-SS) Prerequisite: consent of instructor. Fisher
Study of the physical, political, economic, and social elements of political geography and an analysis of the power structure of the world's major powers.
- 455 (420). **Latin America.** (3:3:0) F. Home Study also. Layton
An analysis of the physical and cultural geography of the nations of South and Middle America.
- 460 (430). **Europe.** (3:3:0) S. Home Study also. (G-SS) Staff
Study of the land and how man is utilizing the natural and human resources of Europe. Emphasis on human geography of major political regions.
- 470 (440). **Asia.** (3:3:0) S. Prerequisite: consent of instructor. Tuttle
Geography of one-third of the earth and two-thirds of its people. Man's use of his natural environment.
- 475 (450). **Africa.** (3:3:0) F. Staff
Systematic regional treatment of physical, economic, political, and cultural geography of Africa.
- 480 (460). **Australia and New Zealand.** (2:2:0) F. Offered 1960-61 and alternate years. Staff
Physical and cultural geography of Australia, New Zealand, and Tasmania.
- 490, 491 (490, 491, 492). **Readings.** (1:1:0) F.S. For majors only. Staff
- 493 (495). **Special Problems.** (1-2:1-2:0) F.S. For majors only. Staff

Advanced Undergraduate or Graduate Courses

- 504 (570). **Geographic Field Techniques.** (2:1:2) S. Offered 1960-61 and alternate years. For majors only. Staff
- 522 (565). **Urban Geography.** (2:2:0) F. Layton
Distribution of urban areas, their development, internal land use pat-

terns, and functions in the world's economy.

- 533 (560). **Industrial Geography.** (3:3:0) S. Prerequisite: Geography 231. Layton
A systematic analysis of location patterns of major industries in the United States, raw materials, power resources, and other factors in industrial location.
- 552 (611). **United States.** (2:2:0) Offered 1961-62 and alternate years. Pre-requisite: Geography 351. Tuttle
A concentrated study of various phases of the geography of the U.S. Considerable research and reporting by individual students will be expected.
- 556 (621). **South America.** (2:2:0) Offered 1961-62 and alternate years. Pre-requisite: Geography 455. Layton
Physical and cultural landscapes of geographic regions of South America.
- 557 (622). **Caribbean Area.** (2:2:0) Offered 1962-63 and alternate years. Prerequisite: Geography 455. Layton
- 561 (531). **Western Europe and the Mediterranean.** (2:2:0) S. Offered 1960-61 and alternate years. Prerequisite: Geography 460. Staff
A comprehensive study of the systematic and regional geography of non-Communist Europe.
- 562 (532). **U.S.S.R. and Its Satellites.** (2:2:0) Offered 1960-61 and alternate years. Prerequisite: Geography 460 or 470 or consent of instructor. Tuttle
A concentrated study of the physical features, resources, agriculture, industries, and distribution of peoples.
- 571 (641). **Orient.** (2:2:0) F. Offered 1960-61 and alternate years. Prerequisite: Geography 470. Staff
A comprehensive study of the systematic and regional geography of the Orient.
- 585 (580). **Geography of Underdeveloped Areas.** (2:2:0) S. Prerequisite: consent of instructor. Staff
A study of physical, economic, and human geography as it affects the world's underdeveloped areas with emphasis on future development possibilities.
- 598 (598). **Seminar.** (1:1:0) Arr. Staff
Required of all graduate students.
Graduate Courses
Required of all graduate students.
- 690, 691 (690, 691, 692). **Readings.** (1:1:0) F.S. Staff
- 695 (695). **Special Problems.** (1-2:1-2:0) F.S. Staff
- 696, 697 (605, 606, 607). **Research.** (2:2:0) F.S. Staff
- 698 (698). **Graduate Seminar.** (1:1:0) Arr. Staff
- 699 (699). **Thesis for Master's Degree.** (1-4:1-4:0) F.S. Staff

This course also carries geography credit:

History 585 (585). **Historical Geography of the United States.**

Geology and Geological Engineering Science



Professors: Bullock (chairman, 291 ESC), Bissell, Hansen.

Associate Professors: Hintze, Rigby.

Assistant Professors: Bushman, Clark, Phillips.

Instructors: Brimhall, Warner.

Curator: Owens.

It is expected that a student intending to major in geology shall have met the general entrance requirements of the College of Physical and Engineering Sciences. All students majoring in geology are required to complete the following courses (or their equivalents at another institution) to obtain the bachelor's degree: Geology 111, 112, 251, 252, 311, 312, 313, 410, 460, 470, and 480. No more than two of these required geology courses can be taken during any one semester. Chemistry 111, 112, 113, Mathematics 111, 112, and Physics 201, 202, or 211, 213 are required of all geology majors. In partially fulfilling the group requirements of the University, this department requires: Anthropology 241, Archaeology 310, Botany 105, Geography 231, Language—10 hours, and Zoology 105.

Mathematics 213 and 214 are required of all students majoring in geological engineering, geophysics, or geochemistry, and are strongly recommended for all geology majors. Requirements for students intending to teach in elementary and secondary schools are listed under composite majors in mathematics and physical science under the College of Education.

The Department of Geology offers training for the master's degree and the degree of Doctor of Philosophy, with specialization in various fields of geology. The graduate student is urged to acquire a broad foundation in geology and to secure adequate training before he concentrates on a chosen branch of the subject. To this end certain fundamental course work is recommended for all students. The course offerings are sufficiently varied and complete in order that all the students may select courses according to their needs and inclinations in consultation with their advisers.

It is expected that graduate students will meet all the general requirements for advanced degrees as outlined by the Graduate School. The responsibility of meeting these requirements rests with the student. Thesis work, intended to be investigative in character, must be of professional caliber. It is expected that the candidate for an advanced degree will make original contributions, develop new ideas, and complete a thesis or dissertation suitable for publication.

The graduate program of the Department of Geology offers instruction in three broad divisions of geology, with the following course offerings in each division: (1) economic geology and mineralogy—Geology 520, 540, 545, 551, 621, 641, 646, 653, 655, 661, and 662; (2) stratigraphy, sedimentation, and paleontology—Geology 574, 575, 576, 580, 581, 670, 671, 673, 680, 681, 682, 684, 685; and (3) structural, field, and dynamic geology—Geology 507, 511, 512, 530, 535, 610, and 615.

A student may select any one of the three divisions for a major. He may elect one or both of the remaining divisions for his minor(s). Geology 507, 512, 551 are required of all graduate students. Geology 696, 698, 699, and 799 are variable credit courses commensurate with work completed in each of these areas. A student should not register for Geology 699 or 799 until he has essentially completed his research and is prepared to write his thesis or dissertation.

Master's Degree. (For general requirements see Graduate School catalog.) Requirements for a master's degree in geology include: (1) at least sixteen hours of formal course work in the major field and at least ten hours of formal course work in one or two minor fields; (2) a written exploratory examination at the beginning of the graduate program; (3) a comprehensive oral examination on the graduate course work prior to his thesis defense; (4) a thesis embodying the results of research under a faculty member's supervision; and (5) a final oral examination on the research thesis.

Doctor of Philosophy Degree. (For general requirements see Graduate School catalog.) Requirements for a Doctor of Philosophy degree in geology include: (1) a minimum of thirty hours of formal course work in the major field and a minimum of fifteen hours of formal course work in each of two minor fields (one of the minors may be in a related field outside of the Department of Geology in which upper division and graduate courses will be acceptable); (2) one degree or one year of acceptable graduate study at another institution; (3) a comprehensive examination after sixty hours of graduate work and at least one academic year prior to graduation; (4) dissertation embodying the results of original research; and (5) defense of his dissertation before a formally appointed committee at the close of his final year of study.

Required Curriculum for Geology Majors

Freshman Year		Junior Year	
F	S	F	S
History 170 or 180	3	Archaeology 310	3
English 111, 112	3	Chemistry 113	3
Geology 111, 112	4	Geography 231	3
Health 130	2	Geology 311, 312	4
Math 111, 112	5	Geology 313	3
Physical Education	$\frac{1}{2}$	Physics 201, 202	4
Religion	$\frac{1}{2}$	Religion (upper div.)	2
		Electives (upper div.) ..	3
<u>16$\frac{1}{2}$</u>	<u>17$\frac{1}{2}$</u>	<u>16</u>	<u>16</u>

Sophomore Year

	F	S
Anthropology 241		3
Botany 105	3	
Chemistry 111, 112	4	3
Geology 251, 252	4	4
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Religion (upper div.)	2	2
Zoology 105		3
Electives	3	2
	<hr/> 16 $\frac{1}{2}$	<hr/> 17 $\frac{1}{2}$

Summer School

Geology 410 (Summer
Field Camp) 4 hours

Senior Year

	F	S
Geology 470, 460	3	3
Geology 480	3	
Language	5	5
Literature (upper div.)..		2
Religion (upper div.) ..	2	2
Electives (upper div.) ..	3	4
	<hr/> 16	<hr/> 16

Required Curriculum for Geological Engineering

(Also pre-geochemistry, geophysics, and leading to a B.S.
degree in geology)

Freshman Year					
	F	S			
History 170 or 180		3	Archaeology 310	3	
English 111, 112	3	3	Botany 105	3	
Geology 111, 112	4	4	Chemistry 113	3	
Health 130	2		Geology 311, 312	4	1
Mech. Eng. 100		1	Geology 313		3
Math 111, 112	5	5	Geography 231	3	
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Religion (upper div.)	2	2
Religion	2	2	Zoology 105		3
			Electives (upper div.) ..		5
				18	17
	16 $\frac{1}{2}$	18 $\frac{1}{2}$			
Sophomore Year			Summer School		
	F	S	Geology 410 (Summer		
Chemistry 111, 112	4	3	Field Camp)	4 hours	
Civil Eng. 201, 202	2	2			
Geology 251, 252	4	4	Senior Year		
Math 213, 214	5	5		F	S
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Geology 470, 460	3	3
Religion (upper div.)	2	2	Geology 480	3	
			Language	5	5
			Literature (upper div.) ..		2
	17 $\frac{1}{2}$	16 $\frac{1}{2}$	Physics 211, 213	5	5
Junior Year			Religion (upper div.)	2	2
	F	S		18	17
Anthropology 241		3			

5th Year

Thirty semester hours of the following list may apply toward the B.E.S. degree in Geological Engineering: Geology 507, 512, 520, 530, 535, 540, 551, 574, 575, 545, 576, 580, 581, 591, 592; physical chemistry; differential equations; nuclear physics.

Geology 507, 512, and 551 are required.

Lower Division Courses

101 (101). Introduction to Geology. (2:2:0) F.S.Su. Home Study also. (G-PS) Staff

A cultural non-technical course dealing with physical geology. Designed for the non-science student who desires a broad introduction to earth science and a greater appreciation of his surroundings. May be taken with or without Geology 102. Annual two-day field trip through central and southern Utah is sponsored each spring for all Geology 101, 102, and 103 students of the year.

102 (102). Introduction to Geology Laboratory. (1:0:2) F.S.Su. (G-PS) Staff

Laboratory course (including a local field trip) in which common rock and ore-forming minerals, common rocks, and a few maps will be studied. Annual field trip, see Geology 101.

103 (103). Life of the Past. (3:2:2) F.S.Su. Home Study also. (G-PS) Staff

A cultural non-technical course in historical geology. Designed for the non-science student who desires an understanding of life forms and general historical events of the geologic past. Annual field trip, see Geology 101.

111 (111). Physical Geology. (4:3:2) F.S. (G-PS) Brimhall

A study of minerals, rocks, and other earth materials together with their distribution and arrangement in the earth, and the various geologic pro-

cesses that operate on these materials. Introduction into the various fields of geology. Beginning course for all geology majors.

- 112 (112, 113). **Historical Geology.** (4:3:2) F.S. (G-PS) Prerequisite: Geology 111. Clark
A study of the history of the earth and its life forms. Representative fossils will be studied in the laboratory. Several field trips will be taken.
- 251 (251). **Mineralogy.** (4:2:4) F.S. Bullock
Study of crystallography and other important physical properties of minerals, and a detailed study of the ore-forming minerals.
- 252 (252, 253). **Petrology.** (4:2:4) F.S. Prerequisite: Geology 251. Phillips
A detailed study of the rock forming minerals, and a megascopic study and classification of important igneous, sedimentary, and metamorphic rocks.

Upper Division Courses

- 306 (306). **Geomorphology.** (3:3:0) F. Home Study also. (G-PS) Bushman
A study of the earth's landscape features and their origin, dealing with the sculpturing of mountains, hills, plains, and plateaus by erosive processes, and the landform features produced by earth movements and volcanism. Designed especially for non-majors.
- 311 (311). **Structural Geology.** (4:3:2) F. Prerequisites: Geology 252; Mathematics 111. Hintze
Study of structural features of the earth's crust and forces which have produced these structures.
- 312 (505). **Geological Literature and Scientific Report Writing.** (1:1:0) S. Prerequisite: Successful completion of Junior English Proficiency Exam. Brimhall
Introduction to indexes and various sources of geologic literature. Written exercises on format, style, expression, and form of various geologic reports.
- 313 (313). **Geologic Methods.** (3:2:2) S. Prerequisite: Geology 311. Bissell
Practice training in methods of geologic field work and the use of field instruments; office practice in geologic illustrations.
- 410 (410). **Summer Field Camp.** (4:0:40) Summer only, see summer catalog. Prerequisites: Geology 313, 492. Staff
A six-week summer field camp in geologic mapping. A one-hour seminar is required during Spring Semester prior to field camp. Required of all geology students.
- 460 (460). **Principles of Economic Geology.** (3:3:0) S. Prerequisites: Geology 252; Chemistry 113. Brimhall
Study of origin, mode of occurrence, classification, and use of more important metallic ores and non-metallic mineral products.
- 470 (470, 475). **Stratigraphy and Sedimentation.** (3:2:2) F. Prerequisite: Geology 252. Bushman
Analytical study of sediments and their origin and study of the principles of stratigraphy.
- 480 (480). **Introduction to Paleontology.** (3:2:2) F. Prerequisite: Geology 112. Rigby
Systematic study of fossil remains of the animal kingdom, and introductory study of structure, distribution, and development of animals in past ages.
- 492 (New). **Seminar.** (1:1:0) S. Staff

Advanced Undergraduate or Graduate Courses

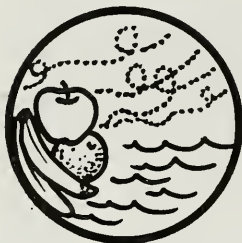
- 501 (501). **Rocks and Minerals.** (2:2:0) F.Su. Staff
Introductory study of fundamentals of rock and mineral classification and identification. Designed to acquaint the student with the earth's common raw materials, their occurrences, and uses. For students other than geology majors.
- 502 (502). **Geology for Teachers.** (2:2:0) S.Su. Home Study also. Bushman
A course designed to acquaint the teacher with methods and procedures for teaching geology and with sources of information, projects, and illustrative materials useful in the classroom.
- 507 (507). **Founders and Concepts in Geology.** (2:2:0) F. Bushman
- 511 (511). **Geomorphology.** (3:3:0) S. Bushman
- 512 (512). **Geology of the United States.** (4:4:0) S. Hansen
- 520 (520). **Petroleum Geology.** (4:4:0) F.Su. Hintze
- 530 (530). **Engineering Geology.** (3:3:0) F. Warner
- 535 (535). **Ground Water.** (4:4:0) S. Warner
- 540 (540). **Geophysics.** (3:3:0) F. Prerequisites: Math 213; Physics 213. Brimhall
- 545 (645). **Geochemistry.** (3:3:0) F. Prerequisites: Math 213; Physics 213. Brimhall
- 551 (651). **Optical Petrography.** (5:3:4) F. Prerequisites: Geology 252; Physics 202 or 213. Phillips
- 574 (475). **Principles of Stratigraphy.** (2:2:0) F. Bissell
- 575 (575). **Pre-Cambrian and Paleozoic Stratigraphy.** (3:3:0) F. Hintze
- 576 (576). **Mesozoic and Cenozoic Stratigraphy.** (3:3:0) S. Bushman
- 580 (580). **Invertebrate Paleontology (Protozoans through Brachiopods).** (4:3:2) F. Prerequisite: Geology 480. Clark
- 581 (581). **Invertebrate Paleontology (Mollusks through Hemichordates).** (4:3:2) S. Prerequisite: Geology 580. Clark
- 591, 592 (591, 592, 593). **Seminar.** (1:1:0 ea.) F.S. Staff

Graduate Courses

- 610 (610). **Structural Geology.** (3:3:0) S. Hintze
- 615 (615). **Photogeology.** (3:1:4) S. Hintze
- 621 (621). **Oil Field Development.** (3:3:0) S. Warner
- 641 (641). **Geophysical Exploration.** (5:4:2) S. Not given this year. Staff
- 646 (646). **Geochemical Techniques and Mineral Prospecting.** (3:2:2) S. Pre-requisite: Geology 545. Brimhall
- 653 (653). **Determinative Mineralogy.** (5:3:4) S. Prerequisite: Geology 551. Phillips
- 655 (655, 656). **Igneous and Metamorphic Petrology.** (5:4:2) S. Bullock
- 661 (661). **Ore Deposits.** (4:3:2) F. Prerequisite: Geology 460. Bullock
- 662 (662). **Non-Metallic Deposits.** (3:3:0) F. Phillips

- 670 (670, 673). Sedimentation and Sedimentary Tectonics. (4:3:2) F. Bissell
- 671 (671, 672). Sedimentary Petrology and Petrography. (4:3:2) S. Bissell
- 678 (678). Subsurface Stratigraphy. (4:2:4) F. Bushman
- 680 (680). Micropaleontology. (3:2:2) F. Prerequisite: Geology 480 or 581. Clark
- 681 (681). Quantitative Paleontology. (3:3:0) F. Prerequisite: Geology 480 or 581. Rigby
- 682 (682). Vertebrate Paleontology. (3:3:0) S. Prerequisite: Geology 480 or 581. Clark
- 684 (684). Stratigraphic Paleontology. (3:2:2) S. Prerequisite: Geology 480 or 581. Rigby
- 685 (685). Paleocology. (4:3:2) S. Rigby
- 696 (696). Readings and Conference in Geology. (1-4:1-4:0) F.S.Su. Staff
- 698 (698). Research. (1-4:1-4:0) F.S.Su. Staff
- 699 (699). Thesis for Master's Degree. (1-4:1-4:0) F.S.Su. Staff
- 799 (799). Dissertation for Doctor of Philosophy Degree. (Arr.) F.S.Su. Staff

Health and Safety Education



Professors: Hart, Hartvigsen.

Associate

Professor: Nicholes.

Assistant Watters (chairman, 238 SFH),

Professors: Duerden, Robison.

Instructors: Kimball, Shaw.

Health Education Major: Students desiring to major in health education will take the following courses: Health 121, 325, 381, 521, 530, and 552 or 560; Foods and Nutrition 115, Zoology 264, Psychology 340; and six hours chosen from the elective courses which also count in this department. The student's program is to be established through consultation with an advisor from the department.

Health Education Minor: Students may minor in health education by completing the following courses: Health 121, 325, 381, 521, and four hours selected from the following: Foods and Nutrition 115, Health 530, 552, 560, and Psychology 340. In addition they may count four hours from the elective courses which also count in this department.

Driver and Safety Education Minor: Students may minor in driver education and qualify for state certification in driver education by completing the following: Health 121, 325, 444, 445, and seven hours selected from the following: Health 521, 530, 560; Phys. Ed. 165 or 164; and Instruction 406.

Composite Major: See courses required for teaching majors, minors, and composite majors listed under the College of Education.

Lower Division Courses

- 10 (110). **Beginning Drivers' Laboratory.** (0:0:3) F.S.Su. Shaw
Non-credit service course. Driver education for beginning drivers. Used as a laboratory in conjunction with Health Education 445. No driving experience required.
- 121 (121). **First Aid.** (2:2:0) F.S.Su. Kimball, Shaw, Watters
Principles and practices in emergency care and first aid procedures for injuries. American Red Cross Certificate given upon successful completion of course.
- 130 (130). **Personal Health.** (2:2:0) F.S.Su. Home Study also. (1 hour G-R) Staff
Designated to develop adequate knowledge, desirable health attitudes and practices. Required of all freshman students. May be taken either semester during freshman year.

Upper Division Courses

- 325 (325). **Safety Education.** (2:2:0) F.S.Su. Home Study also. Shaw, Watters
A comprehensive course covering all major areas of general safety including school, playground, home, farm, industrial, and traffic safety.

- 361 (361). The Elementary School Health Program.** (2:2:0) F.S.Su. Home Study also. Nicholes, Robison
Fundamental principles of health and their application to elementary school. Designed to prepare teachers planning to teach in the elementary schools.
- 362 (362). The Secondary School Health Program.** (2:2:0) F.S.Su. Home Study also. Duerden, Watters
Fundamental principles of health and their application to secondary school. Designed for those preparing to teach in secondary schools.
- 381 (381). Program Planning in Secondary School Health Education.** (2:2:0) S. Staff
Emphasis on the role of the health specialist in integrated and concentrated programs; a study of functions, program planning, and resource materials related to school health education.
- 444 (310). Driver Education Planning.** (2:2:0) F.S.Su. Prerequisite: Health 325. Shaw
Organization, administration, and supervision of high school driver education programs.
- 445 (310, 510). Driver and Traffic Education.** (4:2:4) F.S.Su. Prerequisites: Health 325, 444. Shaw
Knowledge, attitudes, and skills related to driving. Behind-the-wheel instruction and practice instruction, fitness of drivers, insurance and liability, cost and care of car, traffic codes, nature's laws, highway, city, freeway, and adverse conditions of driving. Contributions to and the problems of the automobile in modern society.
- 451 (451). School Health and Community Relations.** (1:1:0) S. Prerequisite: Health 361 or 362. Duerden
Designed to increase understanding of the health relationships between the school and the community including principles of community co-operation, disease prevention and control, and general methods of health promotion.

Advanced Undergraduate or Graduate Courses

- 501 (501). Health Education Workshop.** (1-2:Arr.:0) F.S.Su. Staff
Intended primarily for extension credit and/or summer school. Involves a presentation of health education problems followed by discussions—conducted on a workshop basis.
- 521 (521). Evaluation and Selection of School Health Material.** (2:2:0) F. Duerden
Pamphlets, brochures, films, textbooks, and other school health resource materials are evaluated and selected for present and future use.
- 530 (530). First Aid Instructor.** (2:2:1) F. Watters
A course designed to qualify instructors in Red Cross first aid, in order that they may conduct classes to qualify individuals for standard and advanced Red Cross cards.
- 551 (551). Field Work in Community Health.** (2:Arr.) S. Prerequisite: Health 451. Duerden
Designed to broaden the understanding of community health agencies, their roles, programs, and relationships. This is accomplished by field introductions to the various official and voluntary health agencies followed by the selection of agencies in which to do field work during the quarter.

- 552 (552). **School Health Services.** (2:2:0) S. Prerequisite: Health 361 or 362. Shaw
 Considers desirable school health services and functions and relationships to public education and education law. Coordinates school health services with community programs.
- 560 (560-332). **Stimulants and Depressants.** (2:2:0) S. Nicholes
 Modification of normal physiological processes by stimulant and depressant drugs and materials.

Education Course

- 479 (479). **Secondary Student Teaching.** (8:8:0) F.S. Staff
 Graduate Courses

- 693 (693). **Research in Health Sciences.** (2:1:2) F.S. Staff
 Independent and/or directed research in problems associated with the health sciences. This course gives credit to those graduate students involved in directed or independent research from grant-in-aid, fellowship, or contract grant support.
- 694 (694). **Seminar in Readings.** (2:2:0) S.Su. Staff
- 696 (696). **Seminar in Problems.** (1:1:0) F.Su. Staff
- 698 (698). **Field Project.** (1-4:Arr.:Arr.) S. Staff
- 699 (699). **Thesis for Master's Degree.** (1-4:2-5:0) F.S.Su. Staff

These courses also count in Health Education:

Bacteriology 121. **Bacteriology.** (3:3:2)

Bacteriology 311. **Sanitation and Public Health.** (2:2:0)

Chemistry 101. **Introductory Inorganic Chemistry.** (4:4:3)

Foods and Nutrition 115. **Essentials of Nutrition.** (2:2:0)

H.D.F.R. 466. **Teaching Marriage and Family Relationships in the High School.** (2:2:0)

Psychology 340. **Mental Hygiene.** (3:3:0)

Psychology 445. **Exceptional Children.** (3:3:0)

Recreation 537. **Philosophy of Recreation.** (3:3:0)

Sociology 449. **Community Organization, Action, and Planning.** (3:3:0)

Sociology 580. **Social Relations in Medical Health Organizations.** (3:3:0)

Zoology 264. **Anatomy and Physiology.** (5:3:4)

Zoology 365. **General Physiology.** (5:3:4)

Zoology 661. **Advanced General Physiology.** (3:3:0)

Zoology 662. **Advanced General Physiology.** (3:3:0)

Zoology 663. **Advanced General Physiology.** (3:3:0)

Professors: Campbell (chairman, 340 McKay), Hafen, Poll, Swensen.

Assistant Professors: Addy, Fielding, Hunt, Hyer, Jensen.

History



Requirements for a Major

A history major requires the completion of 30 hours of work in this field. These courses are required: History 110, 111, 120 and 121, normally taken in the freshman and sophomore years; History 388 and Library Science 370, junior year; History 490, senior year. Majors who seek certification in secondary education are also required to take History 366. The remaining elective hours should be selected in consultation with the departmental adviser. Not more than 12 hours of lower division work in history may be applied toward the major.

A comprehensive examination is given to all majors in the final quarter of the senior year.

A student deciding to major in history should immediately consult the chairman of the department, who will assist in the selection of the minor field.

The requirements for a teaching major in history and for the composite major in social sciences which includes history are found under College of Education.

Suggestions for a Minor

A history minor requires 14 hours of course work **not** including History 170. At least 6 hours must be chosen from History 110, 111, 120, and 121.

For the requirements for a teaching minor in history, see College of Education.

American History and Government Requirement

For details concerning the American history and government requirement, see "Requirements for Graduation."

Lower Division Courses

110 (110). World Civilization I. (3:3:0) F.S.Su. Home Study also. (G-HA)

Beginnings of major world civilizations and their development to approximately 1500 A.D., with emphasis on Europe. Staff

111 (111). World Civilization II. (3:3:0) F.S.Su. Home Study also. (G-HA)

Development of major world civilizations since 1500, with emphasis on Staff

Europe.

- 120 (120). **The United States to 1865.** (3:3:0) F.S.Su. Home Study also. (G-HA) Staff
Discovery and colonization, the American Revolution, establishment of the constitution, foreign affairs, westward expansion, sectionalism, and the Civil War.
- 121 (121). **The United States since 1865.** (3:3:0) F.S.Su. Home Study also. Staff (G-HA)
Civil War and reconstruction, industrialization and urbanization, American imperialism, progressivism, world wars, New Deal, and current problems.
- 170 (170). **The American Heritage.** (3:3:0) F.S.Su. Staff
Growth of the United States under the constitution, with emphasis on political ideas and institutions and the adaptation of the governmental system to America's role as an industrial and world power.

Upper Division Courses

Upper division and graduate classes to be offered in the summer of 1961 will be announced in the summer school catalog.

Courses in other departments which carry credit in history are listed at the end of the History Department section.

- 300 (300). **Early Oriental History.** (2:2:0) F. (G-HA; G-R) Nibley
Ancient Egypt, Babylonia, Assyria, Arabia, Persia and Palestine.
- 304 (304). **Greek History and Civilization.** (3:3:0) (1961-62 and alternate years.) (G-HA) Swensen
- 307 (307). **Roman History and Civilization.** (3:3:0) S. (1960-61 and alternate years.) (G-HA) Swensen
- 311 (511). **History of the Middle Ages.** (3:3:0) F. (G-HA) Swensen
- 312 (312). **Renaissance and Reformation.** (3:3:0) F.S. Home Study also. (G-HA; G-R) Jensen, Swensen
- 316 (316). **Western Civilization I.** (1-2:Arr.:Arr.) Su. Staff
Limited to participants in the B.Y.U. Travel-Study Program.
- 317 (317). **Western Civilization II.** (1-2:Arr.:Arr.) Su. Staff
Limited to participants in the B.Y.U. Travel-Study Program.
- 323 (323). **Europe in the Twentieth Century.** (2:2:0) Home Study also. (1961-62 and alternate years.) (G-HA) Jensen
- 330 (330). **Russia.** (3:3:0) S. Mabey
Emphasis on the late empire and the Soviet Union. Not open to students who have taken History 331x.
- 331x (331x). **Russia Since 1900.** (2) Home Study only. Mabey
Not open to students who have taken History 330.
- 332 (332). **France Since 1610.** (3:3:0) (1961-62 and alternate years.) Home Study also. Jensen
- 333 (333). **Modern Germany.** (2:2:0) F. (1960-61 and alternate years.) Jensen
- 334 (334). **Spain.** (2:2:0) S. (1960-61 and alternate years.) (G-HA) Addy
- 335 (335). **England.** (3:3:0) (1961-62 and alternate years.) (G-HA) Jensen
- 336x (336x). **History of England to 1714.** (2) Home Study only. Jensen
Not open to students who have taken History 335.

- 337x (337x). History of England since 1714.** (2) Home Study only. Jensen
Not open to students who have taken History 335.
- 340 (340). Asia.** (3:3:0) F. (G-HA) Hyer
Emphasis on China, Japan and India.
- 343 (345). Formative Period of Chinese Civilization.** (2:2:0) F. Hyer
Development of China to recent times, with emphasis on social and cultural factors.
- 344 (345). Modern China.** (2:2:0) S. Hyer
Impact of the West and the rise of Chinese Communism.
- 346 (346). Japan.** (2:2:0) S. (1960-61 and alternate years.) Hyer
- 347 (347). India.** (2:2:0) (1961-62 and alternate years.) Hyer
- 351 (351). History of Latin America I.** (3:3:0) F. Home Study also. Addy, Hunt
Colonial Period. Geography, pre-Columbian civilizations, conquest, and institutional development from 1492 to 1800.
- 352 (352). History of Latin America II.** (3:3:0) S. Home Study also. (G-HA) Addy, Hunt
National period. The wars of independence, evolution of modern republics, inter-American relations, and institutional development from 1800 to the present.
- 353 (353). Mexico.** (2:2:0) (1961-62 and alternate years.) Home Study also. Addy
- 360 (360). The American Frontier.** (2:2:0) F.S. Campbell, Hafen
Highlights and significance of the westward movement in American history.
- 364 (364). The Indian in American History.** (2:2:0) (1961-62 and alternate years.) Hafen
- 365 (365). California.** (2:2:0) F. (1960-61 and alternate years.) Home Study also. Campbell
- 366 (366). Utah.** (2:2:0) F.S. Home Study also. (G-R) Staff
Emphasis on the Utah territorial period and the Mormon contribution. Not open to freshmen or sophomores.
- 373 (373). American Intellectual and Cultural Growth.** (2:2:0) F. (G-HA) Fielding
- 388 (388). Historiography.** (2:2:0) F.S. Swensen
Fundamental problems and types of historical analysis and interpretation, philosophies of history, and work of outstanding historians. Required of history majors and recommended for the junior year.
- 490 (490). Senior Seminar.** (2:2:0) F.S. Prerequisite: Library Science 370 or equivalent. Staff
Required of all history majors in the senior year.
- 498 (498). Directed Readings.** (1-2:0:Arr.) F.S.Su. Staff

Advanced Undergraduate or Graduate Courses

In the Department of History, courses in the 500 series provide systematic coverage of rather broad areas of subject matter through text and library readings, lectures, reports, and class discussions. Students who have not completed the relevant courses from among History 110, 111, 120 and 121 should obtain permission of the instructor before enrolling in any of these courses.

- 512 (512). **Medieval Thought and Culture.** (3:3:0) S. (1960-61 and alternate years.) Swensen
- 522 (522). **Nineteenth Century Europe.** (2:2:0) S. (1960-61 and alternate years.) Addy
- 525 (525). **European Diplomatic History since 1815.** (2:2:0) F. (1960-61 and alternate years.) Jensen
- 528 (528). **Modern European Thought and Culture.** (2:2:0) (1961-62 and alternate years.) Jensen
A study of the most influential ideas and intellectual movements of the last three centuries.
- 548 (548). **Culture of Asia.** (2:2:0) (1961-62 and alternate years.) Hyer
- 562 (562). **American Westward Movement to 1825.** (3:3:0) F. Hafen
- 563 (563). **American Westward Movement after 1825.** (3:3:0) S. Hafen
- 572 (572). **American Revolution and the Confederation.** (2:2:0) S. Fielding
- 579 (579). **Contemporary United States History.** (2:2:0) F. Poll
- 585 (585). **Historical Geography of United States.** (2:2:0) S. (1960-61 and alternate years.) Staff

Graduate Courses

In the Department of History, courses in the 600 series, excepting seminars, develop selected problems within the general areas of the course titles through extensive library reading, reports, and class discussions. Seminars require each participant to produce a substantial research paper. Seniors who have completed all of the specifically required courses for the undergraduate major may enroll in these courses with the permission of the instructor.

- 606 (606). **Greek Thought.** (2:2:0) F. (1960-61 and alternate years.) Swensen
- 618 (618). **Renaissance and Reformation.** (2:2:0) (1961-62 and alternate years.) Jensen
- 621 (621). **Modern Europe.** (2:2:0) S. (1960-61 and alternate years.) Jensen
- 640 (640). **The Far East.** (2:2:0) F. (1960-61 and alternate years.) Hyer
- 650 (650). **Latin America.** (2:2:0) (1961-62 and alternate years.) Addy
- 656 (656). **Southwestern United States.** (2:2:0) S. (1960-61 and alternate years.) Hafen
- 670 (670). **Colonial America.** (2:2:0) (1961-62 and alternate years.) Fielding
- 675 (675). **The New Nation, 1787-1815.** (2:2:0) F. (1960-61 and alternate years.) Hunt
- 676 (676). **Jacksonian America.** (2:2:0) (1961-62 and alternate years.) Fielding
- 677 (677). **Civil War and Reconstruction.** (2:2:0) S. (1960-61 and alternate years.) Poll
- 678 (678). **American Industrial Revolution.** (2:2:0) (1961-62 and alternate years.) Poll
- 694 (694). **Seminar in European History.** (2:2:0) F. Staff
- 695 (695). **Seminar in Western American History.** (2:2:0) F. Staff
- 696 (696). **Seminar in United States History.** (2:2:0) S. Staff

697 (697). Seminar in Utah History. (2:2:0) S.	Staff
698 (698). Special Readings in History. (1-2:0:Arr.) F.S.Su.	Staff
699 (699). Thesis for Master's Degree. (1-4:0:Arr.) F.S.Su.	Staff
799 (799). Dissertation for Doctor's Degree. (1-4:0:Arr.) F.S.Su.	Staff

These courses also count in History:

Economics 274. Economic History of the United States. (3:3:0)

Library Science 370. Historical Bibliography and Methods of Research. (2:2:0)

Political Science 306. History of American Political Thought. (2:2:0)

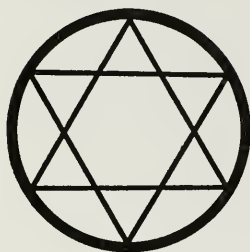
Political Science 322. Contemporary Problems. (2:2:0)

Political Science 557. Government and History of Canada. (3:3:0)

Political Science 571. American Foreign Policy. (3:3:0)

Political Science 595. American Constitutional Development. (2:2:0)

Philosophy of History and Religion



Professors: Burton, Nibley, Rich, Yarn.
Associate Professor: Riddle.
Assistant Professors: Madsen (chairman, 218 S), Andrus, Barrett, Barron, Clark, Horsey, Larson, Patch, Rogers, Shaw.

Courses in the Department of History and Philosophy of Religion are offered to help students meet the religion requirements of the University. An undergraduate major or minor is **not** offered in this department. A graduate major or minor is offered at both the master's level and doctoral level. (See section on the College of Religious Instruction.)

CHURCH HISTORY

Lower Division Courses

- 240 (New). Church History.** (1-2:Arr.:Arr.) Su. Staff
 Limited to participants in the B.Y.U. Travel-Study Program. The growth of the Church from the New York period to the westward migration.
- 241, 242 (131, 132, 133). Latter-day Saint History and Doctrine.** (2:2:0 ea.) Staff
 F.S.Su. (G-R)
 The history of the Church with progressive study of the development of its institutions, beliefs, doctrines, and religious practices in relation to the social and historical setting.

Upper Division Courses

- 441, 442 (301, 302, 303, 304, 305, 306). History and Doctrine of the L.D.S. Church.** (3:3:0 ea.) F.S.Su. Home Study also. (G-R)
 Andrus, Barrett, Barron, Horsley, Larson, Rich
 Intensive study of the history of the Church from 1805 to the present. Students who have had Church History 241 and 242 cannot receive credit for Church History 441 and 442.
- 451 (364, 365). Christian History through the 15th Century.** (2:2:0) F.S.Su. Horsley
 (G-R)
- 452 (365, 366). Christian History after the 15th Century.** (2:2:0) F.S.Su. Horsley
 (G-R)
- 453 (355). World Religions.** (2:2:0) F.S.Su. (G-R) Rogers
- 454 (353). American Religions.** (2:2:0) F.S.Su. (G-R) Horsley

PHILOSOPHY

Upper Division Courses

- 380 (380). **Survey of Philosophy.** (2:2:0) F.S.Su. (G-R; G-HA) Staff
Introduction to types, fields, and problems of philosophy.
- 480 (310). **Introduction to Logic.** (3:3:0) F.S.Su. (G-R; G-HA) Riddle
Formal aspects of language, deductive logic, and scientific method.
- 482 (575). **Ethics—Plato to Dewey.** (2:2:0) F.Su. (G-R; G-HA) Patch, Yarn
An historical approach to the major ethical theories of the Western world.
- 483 (424). **Problems of Knowledge.** (2:2:0) F. (G-R) Riddle
Analysis of how experience becomes knowledge.
- 484 (426). **Types of Religious Philosophy.** (2:2:0) F. (G-R; G-HA) Yarn
Survey of the philosophical bases of Christian religion.

Advanced Undergraduate or Graduate Courses

- 580 (571, 572). **History of Ancient Philosophy.** (3:3:0) F.Su. Yarn
Western philosophy from the 6th century B.C. to the 5th century A.D.
- 581 (572, 573). **History of Modern Philosophy.** (3:3:0) S.Su. Yarn
Western philosophy from the 6th century to the 19th century.
- 582 (420). **Contemporary Ethics.** (2:2:0) S.Su. Patch, Madsen
Examination of the meaning and function of moral judgments and the bases of ethical commitment.
- 583 (425). **Philosophy of Science.** (2:2:0) F.S.Su. Riddle
Examination of the conceptual framework of modern science.
- 584 (562). **Current Trends in Philosophy of Religion.** (2:2:0) F.S.Su. Madsen
- 585 (574). **Contemporary Anglo-American Philosophy.** (2:2:0) F.Su. Madsen
Men and movements in naturalism and logical positivism.
- 586 (579). **Contemporary Continental Philosophy.** (2:2:0) S.Su. Madsen
20th century developments in existentialism, phenomenology, and Marxism.
- 587 (546). **Scholasticism, Humanism, Mysticism.** (2:2:0) F.S.Su. Horsley

Graduate Courses

- 681 (651). **Seminar: Philosophical Analysis.** (2:2:0) S.Su. Riddle
- 682 (New). **Seminar: History of Philosophy.** (2:2:0) S.Su. Yarn
- 683 (653). **Seminar: Philosophy of Religion.** (2:2:0) S.Su. Madsen
- 688 (New). **Readings.** (1-4:1-4:0) F.S.Su. Staff

HISTORY AND PHILOSOPHY OF RELIGION

Advanced Undergraduate or Graduate Courses

- 545 (307). **Great Figures of L.D.S. Church History.** (2:2:0) F.S.Su. Barrett
Biographical study of significant L.D.S. Church personalities of the first half century of the restoration.
- 546 (524). **Social, Economic and Political Thought of Joseph Smith.** (2:2:0) F.S. Andrus
- 551 (514). **The Primitive Church.** (2:2:0) F. Nibley
- 552 (515). **Christianity in the Second and Third Centuries.** (2:2:0) F.S. Nibley

- 553 (351). **Great Figures in Christian History** (2:2:0) F.S.Su. Horsley
Biographical study of significant Christian personalities and their contributions to Christianity from Paul to Joseph Smith.
- 554 (352). **Martin Luther, Forerunner of the Restoration.** (2:2:0) F.S.Su. Horsley
Study of Luther's life, theology, and influence upon Protest-Christianity, with special emphasis upon the significance of Luther for Mormonism.
- 555 (581, 582). **Comparative World Religions.** (2:2:0) F.Su. Rogers
Hinduism, Jainism, Sikhism, Buddhism.
- 556 (582, 583). **Comparative World Religions.** (2:2:0) S.Su. Rogers
Taoism, Confucianism, Shintoism, Judaism, Zoroastrianism, and Islam.
- 557 (551, 553). **Comparative World Rites and Liturgy.** (2:2:0) F. Nibley
- 558 (552). **Islam.** (2:2:0) S. Nibley
- Graduate Courses**
- 641, 642 (621, 622, 623). **Special Problems in L.D.S. Church History.** (2:2:0 ea.) F.S.Su. Andrus, Larson, Rich
- 645, 646 (531, 532, 533). **Historical Development of L.D.S. Doctrine and Practices.** (2:2:0 ea.) F.S.Su. Andrus, Rich
- 653 (544). **History of the Papacy** (2:2:0) F.Su. Horsley
- 654 (632). **Reformation and Counter-Reformation.** (2:2:0) S.Su. Horsely
- 657, 658 (647, 648, 649). **Comparative Studies in American Religions.** (2:2:0 ea.) F.S. Horsley
- 699 (699). **Thesis for Master's Degree.** (1-4:1-4:0) F.S.Su. Staff
- 748 (New). **Readings in L.D.S. Church History.** (1-2:1-2:0) F.S.Su. Andrus, Larson, Rich
- 755 (New). **Seminar: History of Religion.** (2:2:0) F.S.Su. Andrus, Horsley, Larson, Rich
- 758 (New). **Readings in Christian History.** (1-2:0:0) F.S.Su. Horsley, Nibley
- 759 (New). **Readings in the History of World Religion.** (1-2:1-2:0) F.S.Su. Nibley, Rogers
- 799 (799). **Doctoral Dissertation.** (1-4:Arr.:Arr.) F.S.Su. Staff

Homemaking Education

Assistant Professor: Poulson (chairman, 2218 SFLC).
Instructor: Day.
Special Instructors: Beck, Thomson, Wakefield.



The objective of the Department of Homemaking Education is two-fold: to help students become professionally minded, and to provide instruction that will lead to certification to teach. For certification, a bachelor's degree in arts or science from an accredited college and a teaching certificate from the State Department of Public Instruction are required.

A bachelor's degree with certification to teach homemaking or without certification may be earned in homemaking education.

A. Majors desiring to receive a bachelor's degree with a major in homemaking education and a certificate from the State Department of Public Instruction to teach homemaking in secondary schools will need to complete the following program:

1. College of Family Living Required Courses—42 credit hours*:

Human Development and Family Relationships 210, 322, 361.
 Nursing 288.
 Food and Nutrition 110 (need determined by test), 255, 264 and 265, 340.
 Clothing and Textiles 110, 165, 235, or 300, 260.
 Family Housing and Management 220, 350, 351, 330, 370.
 Homemaking Education 91.

2. General Education Requirements—33 credit hours:

Biological Science	6-8	Elective	
Bacteriology 121		Social Science	5
Zoology 105		Psychology 111	
Health 130		Elective	
Humanities and		History 170	3
Aesthetics	6	Physical Science	11
Art 101 or 110		Chemistry 101 and 102	
Literature		Physics 100	

3. Professional Education Courses—27 credit hours:

Homemaking Education 377, 475, 479.
 Health Education 362.
 Instruction 301, 405.
 Education Administration 410.
 Educational Research and Services 403.

4. Suggested Electives in College of Family Living:

Clothing and Textiles 355.

Food and Nutrition 245.

Family Housing and Management 331, 380.

Human Development and Family Relationships 360.

B. Majors desiring to receive a bachelor's degree in homemaking education without certification will complete the College of Family Living requirements and suggested electives, and the General Education Requirements. In addition, Homemaking Education 377, 475, and Speech 102 are strongly recommended.

Suggested Program for Majors Desiring Certification

Note: Majors not desiring certification should see an adviser in the Homemaking Education Department to set up their program.

Freshman Year			Food and Nutrition		
	F	S	264, 265	2	
Religion	2	2	H.D.F.R. 322	2	
English (composition) ..	3	3	Food and Nutrition 340		3
Chemistry 101	4		Clothing and		
Chemistry 102		4	Textiles 235 or 300		3
Art 101 or 110	2		English Lit. or		
Homemaking			Humanities		2
Education 91		0	Homemaking Education		
Clothing and			377		3
Textiles 110	2		Electives	4	
Physical Education	1	1		16	16
Physics 100		3			
Bacteriology 121		3			
Elective	2				
	16	16			
Sophomore Year			Senior Year		
	F	S	Plan A		
Religion	2	2	First Semester		
H.D.F.R. 210 (Rel. Cr.)		3	1st Half Semester		
Psychology 111	3		Homemaking Ed. 475		3
English Literature	2		Religion		2
Nursing 288	2		Family Housing and Mgt. 370 ..		3
Health 130	2		2nd Half Semester		
Zoology 105	3		Homemaking Education 479		8
Food and Nutrition 110	2		Second Semester		
or			Elective		4
Elective	2		History 170		3
Housing and Home			Educational Admin. 410		3
Management 220		2	Inst. 405		2
Food and Nutrition 255..		3	E.R.S. 403		4
Clothing and Textiles					16
165		4			
260		3			
	18	17			
Junior Year			Plan B		
	F	S	First Semester		
Religion	2		1st Half Semester		
Religion (H.D.F.R. 361)		3	Homemaking Education 479		8
Health Education 362	2		2nd Half Semester		
Instruction 301	2		Homemaking Education 475		3
Housing and Home			Religion		2
Mgt. 350, 351	2	2	E.R.S. 403		4
			Second Semester		
			Religion		2
			Elective		3
			History 170		3
			Educational Admin. 410		3
			Instruction 405		2
			Housing and Home Mgt. 370		3
					16

First Semester		Second Semester	
Plan C		1st Half Semester	
Humanities or other elective	2-3	Homemaking Education 479	8
Religion	2	2nd Half Semester	
History 170	3	E.R.S. 403	4
Homemaking Education 475	3	Instruction 405	3
Educational Admin. 410	3	Religion	2
Housing and Home Mgt. 370 ..	3		
<hr/>		<hr/>	
16-17		17	

Courses

- 91 (101). Orientation to Family Living.** (0:2:0) F.S.
An exploratory course to orient the students to the major areas of family living.
- 377 (377). Secondary Teaching Procedures.** (3:3:Arr.) F.S.
For course description see Instruction 377.
- 475 (475). Curriculum Development in Homemaking Education.** (3:3:4) F.S.
Aspects of curriculum development; varieties of learning experiences. Comprehensive techniques are considered with preparation of illustrative material for aid in teaching secondary classes.
- 479 (479). Secondary Student Teaching.** (8:1:Arr.) F.S.
Supervised teaching is carried on in an approved homemaking department of a public school. The student teacher pays her own expenses while living in the community in which she teaches.

Heritage Halls Academic Non-credit Program: Continuous instruction is given at Heritage Halls (women's resident apartments) in the mechanics of everyday group living. The year's program includes management of time, energy, and resources; care of ranges, washers, dryers, refrigerators, and other electrical appliances in the apartments; care of furniture, floors, walls, etc.; buying and storing food; planning and preparation of adequate meals; care, repair, and production of clothing; and family fun and entertaining.

A staff of four graduate professional home economists and four senior student assistants is on duty daily and week-day evenings in two consultant centers located in Snow Hall (room 13B) and Rogers Hall (room 9B). Sewing machines and other sewing equipment, recipe books, and other aids to homemaking are available for use under professional supervision for women residents desiring this help. Bi-weekly menus and recipes, together with a shopping guide) are distributed to all apartments. Demonstrations are given periodically on various phases of homemaking. Approximately 2000 young women are served by this program.

Horticulture and Horticultural Specialties

Associate
Professor:

Ashton.

Assistant
Professor:

Reimschuessel (chairman, 265 PS
L).



A student majoring in the Department of Horticulture and Horticultural Specialties must meet the entrance and graduation requirements of the College of Biological and Agricultural Sciences. Horticulture majors are required to take, preferably during the freshman and sophomore years, one course from each of the following areas: Agricultural Economics 125, 310, 325; Agronomy 141, 251; Animal Husbandry 161, 170, 207; Botany 101, 110.

A student majoring in this department may emphasize either fruit production (pomology), floriculture and greenhouse management, landscape design (minor only), landscape maintenance, ornamental horticulture and nursery management, or turf management.

All majors planning to do graduate work towards a Ph.D. degree are advised to take Mathematics 101, 111 or 112; Chemistry 105, 106 or 111, 112, and 113; German 101, 102 or French 101, 102; Statistics 221, 431, 531.

Students majoring in pomology are required to take the following: Horticulture 101, 103, 310, 312, 317, 402, 450, 455, and 471. Recommended courses: Agronomy 141, 305, and 459; Botany 176, 440, 480; Chemistry 111; or equivalent courses.

Students majoring in floriculture and greenhouse management are required to take the following: Horticulture 103, 107, 112, 318, 402, 471; Agronomy 141, 305, 459; Botany 101, 176, 440, 480. Zoology 230 and 334 are recommended. If emphasis is placed on floral designing the following courses are required: Horticulture 103, 107, 112, 318; Art 110, 313, 314, 415, 417; Housing and Home Management 330, 410.

Students minoring in landscape design are required to take Horticulture 103, 112, 430; Art 110, 122, 233, 313, 314; Housing and Design 330, 410; Industrial Education 102, 113, 244, 245, and 341.

Students majoring in landscape maintenance are required to take the following: Horticulture 101, 103, 107, 312, 317, 402, 416, 430, 458, 471; Agronomy 141, 302, 314, 451; Botany 101, 110, 205, 440, 480; Chemistry 111; and Art 110.

Students majoring in ornamental horticulture and nursery management are required to take the following: Horticulture 101, 103, 107, 312, 317, 402, 416, 430, 458, 471; Botany 101, 105, 110, 440; Agronomy 141, 302, 305, 451, 459; Zoology 105, 230, 334.

Students majoring in turf management are required to take Horticulture

103, 107, 319, 402, 458, 471; Botany 101, 105, 110, 440; Agronomy 141, 305, 451, 459; Zoology 105, 230, 334.

Students minoring in horticulture are required to take Horticulture 101, 103, 107, 310, 319, 402, 416, and 450 or Botany 205.

Lower Division Courses

- 101 (101, 102). General Horticulture.** (3:3:0) F.S. Home Study also. Ashton
Principles underlying the profitable production of fruit trees, small fruits, and vegetables. Sites, soils, fertilizers, varieties, culture, pest problems, harvesting, storage, and propagation.
- 103 (103). Beautifying the Home Grounds.** (3:3:0) F.S. Reimschüssel
Principles of design and composition as applied to home ground development, and related plant culture.
- 107 (107, 315). Floriculture.** (2:2:0) F.S. Home Study also. Reimschüssel
Herbaceous plant culture in the greenhouse and out-of-doors.
- 108 (New). Floriculture Laboratory.** (1:0:2) Reimschüssel
- 112 (112). Flower Arrangement.** (2:1:2) F.S. Reimschüssel
Principles and methods of arranging flowers and other plant materials for decorative use in the home and for exhibition.

Upper Division Courses

- 310 (310). Small Fruit Production.** (2:2:0) S. Ashton
Principles and practices of successful and profitable production of small fruits for home and commercial plantings. Special emphasis on new varieties, disease and insect control.
- 312 (312). Practical Orchard Management.** (3:0:6) Ashton
Training, pruning, fertilizing, insect control, and fruit thinning of orchard trees.
- 317 (317). Nursery Practice.** (2:1:2) S. Taught in odd-numbered years. Pre-requisite: Horticulture 101 or 103 or equivalent. Reimschüssel
Principles underlying the profitable management of a nursery. Site, soil, culture, and handling of nursery stock. Transplanting, propagation, and pest problems.
- 318 (318). Greenhouse Production.** (4:2:4) S. Taught in even-numbered years. Prerequisite: Horticulture 107 or equivalent. Reimschüssel
Principles underlying the management of a greenhouse. Cultural practices of growing indoor plants emphasized.
- 319 (319). Turf Management.** (2:1:2) F. Taught in odd-numbered years. Pre-requisite: Horticulture 107 or equivalent. Reimschüssel
The management of turf grasses as related to climate, soil and use on the golf course, park and private area.
- 350 (352, 353, 456). Pomology.** (3:3:0) F. Prerequisite: Horticulture 101. Ashton
A study of fruit varieties with respect to their development and uses. Special emphasis given to harvesting, handling, and storage problems.
- 391, 392 (New). Seminar.** (1:1:0) F.S. For majors in junior year. Staff
Current literature in horticulture is reviewed.
- 402 (402, 403). Plant Propagation.** (3:2:2) S. Ashton
Principles and practices of plant propagation with special emphasis on fruit and ornamental plants.

- 416 (416). **Ornamental Woody Plants.** (3:2:2) Recommended prerequisite: Botany 123. Reimschüssel
The identification, culture, and use of important ornamental woody plants in Utah.
- 430 (324, 430). **Landscape and Planting Design.** (3:0:6) F. Taught in odd-numbered years. Prerequisite: Horticulture 103; drawing recommended. Reimschüssel
Design and plant combinations for private and public grounds using woody and herbaceous plants.
- 455 (455). **Advanced Pomology.** (3:3:0) F. Prerequisite: Horticulture 350. Ashton
Problems related to the establishing and maintaining of deciduous orchards.
- 458 (458). **Weeds and Weed Seed Identification.** (2:1:2) F. Reimschüssel
Important weeds occurring in Utah and weed seeds likely to occur in commercial seed.
- 471 (471). **Diseases of Cultivated Fruits.** (2:2:0) F. Prerequisites: Horticulture 101; Botany 101; recommended prerequisite: Botany 470. Ashton
Bacteria, fungus, virus, and nutritional diseases of horticultural plants.
- 491, 492 (491, 492, 493). **Seminar.** (1:1:0) F.S. For majors in senior year. Staff
Current literature in horticulture is reviewed.
- 495, 496 (495, 496, 497). **Special Problems in Horticulture.** (1-3:Arr.:Arr.) F.S. Staff

These courses also count in Horticulture:

Agronomy 459 (459). **Plant Breeding.** (3:3:0)

Botany 480 (470). **Diseases of Cultivated Plants.** (3:2:3)

Assistant Professor: Stanford (chairman, 3256 SFLC).

Instructors: Barlow, Barnett, Knell, Lewis, Viehweg, Vincent.

Housing and Home Management Economics



The Department of Housing and Home Management incorporates the former Department of Housing and Design and the Department of Economics and Management of the Home. The goals of the new department are (1) increased appreciation and understanding of the influence of the home environment upon the character of family living, and (2) planning and managing homes to more completely fulfill family needs and interests. Principles of management which concern time, energy, money, and material resources are utilized as fundamental principles of home planning. Proper planning facilitates effective management. In this relationship the structure of the house and the management of the household become interdependent elements in the planning procedure.

Educational opportunities are provided for study, observation, and creative experience in both planning and managing homes with emphasis upon either phase, or a combined treatment of both, depending on student preferences and objectives.

The following program is recommended for a major in Housing and Home Management:

Freshman Year

	Hours
Religion	4
English	6
Physical Education	4
Art 110	2
Economics 101	3
Housing and Home Mgt. 101	2
Horticulture 103	2
Psychology 111	3

Sophomore Year

	Hours
Religion	4
Bacteriology 121	3
Food and Nutrition 110	3
History 170 or 180	3
H.D.F.R. 261	2

Housing and Home Management

210, 220 or 221, 235	7
Physics 100	3

Junior Year

	Hours
Religion	4
Clothing and Textiles 260	3
H.D.F.R. 360	3
Housing and Home Mgt. 330, 331, 350, 370 or 380	11

Senior Year

	Hours
Religion	4
English Literature	2
Housing and Home Mgt. 351 or 381, 410, 411, 590	11

Lower Division Courses

- 101 (New). **Introduction to Family Housing.** (2:2:0) F.S. Staff
Contemporary American housing with reference to urbanization, technological developments, occupational patterns, recreational activities, and economic, social, and political controls.
- 210 (HD 310). **Style Developments in Family Housing.** (2:2:0) F.S. Viehweg
Characteristics of housing design in past and contemporary cultures.
- 220 (HD 360). **Home Furnishings.** (2:1:3) F.S. Barlow
Selection and care of home furnishings. Laboratory practice in constructing slip covers, lampshades, etc.
- 221 (HD 120). **Weaving.** (2:1:3) F.S. Barlow
Creative design applied to woven fabrics; experience in weaving methods. Survey of hand-woven fabrics in various world cultures.
- 235 (HD 135, 335). **Household Equipment.** (3:1:4) F.S. Vincent
Selection, care, and use of household equipment.

Upper Division Courses

- 330 (HD 330, 331, 332). **Principles of House Planning.** (3:3:0) F.S. Stanford
Community zone laws; site selection and development; house orientation and area planning; building materials and their structural uses; and utilitarian, aesthetic, and social evaluations.
- 350 (EMH 330, 350). **Home Management.** (2:2:0) F.S. Barnett
Decision making in the use of resources for attainment of personal and family goals. Management of energy, material goods, skills, abilities, and interests.
- 351 (EMH 325). **Family Finance.** (2:2:0) F.S. Barnett
Economic problems of direct concern to the family of today. Sources and adequacy of income, its apportionment and expenditure in terms of family needs.
- 370 (EMH 470). **Management House.** (3:4:20) F.S. Lewis
Experience in applying home management principles in a family-size group in family-type house. One-third semester only. \$40.00 laboratory fee.
- 380, 381 (HD 380). **Interior Decoration.** (3:3:2) F.S. Prerequisites: Art 110; Housing and Home Management 210, 330, 331; Clothing and Textiles 260. Staff
Structure, composition, and quality of furniture, floor covering, and fabrics as related to their placement, use, and care within the home.
- 410 (HD 410, 411, 412). **Planning Laboratory in Housing.** (3:0:6) F.S. Viehweg
Laboratory exercises with problems in family housing.
- 590 (New). **Seminar.** (2:0:3) S. Prerequisite: twelve hours in housing and management. Staff
Reports and discussion of recent and current literature on housing and home management.
- 595 (HD 590, EMH 580). **Readings.** (1-3:0:3-9) F.S. Staff
Consultation and directed use of library materials.

Professors: Porter (chairman, 1239 SFLC), Cannon.

Associate Professor: Anderson.

Instructors: Arnold, Barlow, Holbrook, Jensen, Kunz, Laws, Orrock, Taylor, Tyndall, Vance.

Human Development and Family Relationships



Among the purposes of the Department of Human Development and Family Relationships (H.D.F.R.) are the following:

1. To provide opportunities for increased understanding and appreciation of abundant and harmonious living within the family, including its relationship to the church and the community.
2. To help students gain increased self-understanding and appreciation of insight and skills basic to effective human relationships.
3. To provide opportunities for the study of human development and family relationships from infancy through old age which will:
 - (a) facilitate the achievement of successful marriage and parenthood.
 - (b) lead to professional competency for those who are interested in vocational opportunities in this field.
4. To provide opportunities for research which will ultimately contribute to increased understanding of human development and family relationships.
5. To provide graduate training leading to a master's degree and Ph.D. degree in human development and family relationships.

The B.Y.U. human development laboratories are among the most modern and up-to-date in the nation. Through the laboratories of the University and the facilities of the community, opportunities are provided for the study of human development and family relationships from infancy through old age.

Outstanding students in H.D.F.R. have the opportunity to enhance their professional training by attending one semester at the Merrill-Palmer School in Detroit, Michigan, with which the College of Family Living has an affiliation.

Suggestions for a Minor

For a minor in human development and family relationships, a selection of 14 credit hours from the following courses is suggested: H.D.F.R. 210, 261, 322, 324, 360, 361, 412, 510, 511, 570.

Requirements for a Major

For a major in human development and family relationships, a minimum of 26 credit hours in the department is required. A maximum of 7 of the 26 hours

may be chosen from a selected list of courses in other departments with consent of the departmental adviser. For graduation from the College of Family Living these hours must be combined with enough credits in the college to total 35 semester hours. Each student must complete a minimum of 12 semester credit hours in the College of Family Living outside of the department in which he is taking his major. These 12 credit hours must include a minimum of one course in each of the departments of Clothing and Textiles, Housing and Home Management, and Food and Nutrition.

Suggested Program for Majors

Freshman Year		Housing and Home Mgt. 3	
	Hours	H.D.F.R. 210** 3	
Religion**	4	Electives	6-10
Freshman English** (determined by placement test)	6	Junior Year	
Physical Education and Health 130**	4		Hours
Physical Science group*	6	Religion**	4
Psychology 111**	3	English (literature)*	4
Art 110*	2	Housing and Home Mgt.	3
Clothing and Textiles	1-4	Food and Nutrition 245 (women)	2
Food and Nutrition*	2-4	H.D.F.R. 360*	3
Homemaking Education 91	0	361*	2
H.D.F.R. 261	2	412*	3
		Electives	6-10
Sophomore Year		Senior Year	
	Hours		Hours
Religion**	4	Religion**	4
Bacteriology 121*	3	H.D.F.R. 510**	3
Zoology 105* or 164	3	511**	3
Sociology 111	3	570**	3
History 170* or 180*	3	492**, 493**	2, 2
Humanities and Aesthetics*	2-6	Electives	14-16

*required

**required year listed

Specialized Programs

Students specializing in child development and/or nursery education must also take H.D.F.R. 324, 422, 423.

Students specializing in professional work with families must take also H.D.F.R. 440, 461, 580.

Students interested in completing a major in human development and family relationships and also qualifying for an elementary teaching certificate may do so.

For H.D.F.R. Majors Who Wish to Qualify Also for Elementary Teaching Certificate

The successful completion of the following program will (a) provide a major in human development and family relationships, (b) qualify a student for an elementary teaching certificate with a kindergarten efficiency statement attached, (c) satisfy the general education requirements for the University, and (d) complete the College of Family Living graduation requirements. Students will be prepared to teach nursery school, kindergarten, and primary grades.

Freshman Year

	Hours
Religion**	4
English**	6
Physical Education**	2
Health 130**	2
Psychology 111*	3
Physical Science group*	6
Art 226*	2
Clothing and Textiles	1-4
Food and Nutrition	2-4

Physical Education 375*	2
Humanities	2-4

Junior Year

	Hours
Religion**	4
H.D.F.R. 324**, 412**, 422**	2, 3, 4
English (literature)	1-3
Housing and Home Mgt.*	3-6
Food and Nutrition 245	2
Instruction 320*, 321*, 422**	3, 3, 3
E.R.S. 304*	2

Sophomore Year

	Hours
Religion**	4
H.D.F.R. 210*, 360*, 361*	3, 3, 2
Bacteriology 121*	3
Zoology 105*	3
History 170* or 180*	3
Music 102*, 237*	2, 2
Instruction 301*, 325*, 340*	2, 2, 2

Senior Year

	Hours
Religion**	4
English (literature)*	1-3
Humanities*	3
H.D.F.R. 423**, 570**, 575**	2, 3, 2
Instruction 405, 499**	2, 8
Ed. Phil. 410	3
Health Ed. 361	2

*required

**required year listed

Courses in this department are of value both to men and women.

Lower Division Courses

- 210 (210), (211). **Child Development.** (3:3:1) F.S. (G-SS; G-R) Prerequisite: Psychology 111. Recommended prerequisite: Sociology 111.

Arnold, Barlow, Tyndall, Vance

Consideration of the growth and development of the child and his relationships with his family, peers, and teachers from infancy through adolescence. One hour observation per week as part of preparation.

- 261 (261). **The Latter-day Saint Family.** (2:2:0) F.S. (G-R) Staff

Place of the family in L.D.S. doctrine and philosophy, together with application of basic religious principles to marriage and family relationships. A comparison of L.D.S. and non-L.D.S. families in time and space.

Upper Division Courses

- 322 (322). **Experience With Children.** (3:2:3) F.S.Su. Prerequisite: H.D.F.R. 210. Barlow, Jensen

Designed to promote an increased understanding of one's self, and develop understanding and skills in working with children through participation in the human development laboratories. For non-majors. Lab fee \$4.50.

- 324 (324). **Creative Play in Childhood.** (2:2:0) F.S. Prerequisite: H.D.F.R. 210. Staff

Use of creative play materials in enriching a child's life. Meaning of play and its value in meeting needs of the growing child.

- 360 (160, 360). **Achieving Success in Marriage.** (3:3:0) F.S.Su. (G-SS; G-R) Anderson, Cannon, Porter

Consideration of maturity, love, compatibility, conflict, specific areas of adjustment in marriage, parent-child relationships, and effective management of family resources.

- 361 (361). **Family Relationships.** (2:2:0) F.S.Su. (G-SS; G-R) Prerequisite: 6 hours in H.D.F.R., psychology, and sociology. Staff

Inter-personal relationships in the family; their significance in develop-

ing values, goals, attitudes and patterns of behavior through the various stages of the family cycle.

- 412 (412). Principles of Child Guidance.** (3:3:0) F. Prerequisite: H.D.F.R. 210. (G-R) Kunz

Application of knowledge and understanding of child behavior and psychodynamics of family interaction to guidance of children. Behavior and guidance principles are studied directly in the human development laboratories. Helpful to parents and prospective parents.

- 422 (422). Methods and Teaching Experiences in the Human Development Laboratory.** (4:2:8) F.S. Prerequisites: H.D.F.R. 412, and consent of instructor. Kunz

Experience in teaching and supervising a group of nursery school children. Students arrange with instructor to spend twelve hours a week in the nursery school laboratories. Lab fee \$9.00.

- 423 (423). Organization and Planning for Pre-School Programs.** (2:2:0) S. Kunz

Consideration of factors involved in the development of pre-school programs. Study of essential procedures in pre-school planning including housing, equipment, health protection, and food service. Field trip.

- 440 (440). Family Life in The Middle and Later Years.** (2:2:0) S. Prerequisite: 4 hours in H.D.F.R., psychology, and sociology. (G-R) Cannon

Adjustments in middle and later years revolving around physical, emotional, and social changes. Emphasis is placed upon needs that arise from changes in family relationships, living arrangements, and employment.

- 461 (461). The Family and the Law.** (2:2:0) F. Staff

Consideration of legal aspects of marriage and family life such as marriage statutes, property rights, separation and divorce, adoption, custody of children, wills, etc.

- 492 (492). Seminar in Theory and Concepts.** (2:2:0) S. Prerequisite: 10 hours in H.D.F.R. Anderson, Cannon, Porter

Evaluation and integration of basic theories and concepts in H.D.F.R.

- 493 (493). Seminar in Evaluating Research.** (2:2:0) F. Prerequisite: 10 hours in H.D.F.R. Anderson, Cannon, Porter

Critical analysis and evaluation of all varieties of research studies in H.D.F.R.

- 510, 511 (405, 510). Advanced Child Development.** (3:3:0 ea.) F.S. Prerequisite: H.D.F.R. 210. Kunz, Porter

Intensive study of principles of child development and behavior as they relate to home situations, nursery schools, day-care centers, and other children's programs. Observation of individuals from infancy through adolescence.

- 570 (570, 572). Community and Professional Responsibilities to Children and Families.** (3:3:0) S. Prerequisites: H.D.F.R. 210, 361; Sociology 111. Porter

Acquaintance with resources of the community as they relate to the welfare of children and families. A consideration of the responsibilities of professional persons working with children and families.

- 575 (575). Parent Education.** (2:2:0) S. Prerequisite: consent of instructor. Kunz, Porter

Basic principles in organization of parent study programs. Formulation and presentation of programs for parents.

- 580 (580). Introduction to Marriage and Family Counseling.** (2:2:0) F. Prerequisite: consent of instructor. Anderson

Theories and techniques used in marriage and family counseling. Consideration of individual and group counseling as it pertains to the family.

- 590 (590). **Readings in Human Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Prerequisite: consent of instructor. Anderson, Cannon, Porter
Discussions and reports of current readings in this field. Open to students who have completed fifteen hours of human development and family relationships.
- 595 (595). **Special Topics in Human Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Anderson, Cannon, Porter
Individual study for qualified students majoring in human development and family relationships upon consultation with the instructor and the chairman of the department.
- 596 (596). **Research Problems and Methods in Human Development and Family Relationships.** (2:2:0) F. Cannon
Analysis of research methods used in human development and family relationships. Students have active experience in formulating a research project.

Graduate Courses

- 611 (611). **Current Concepts and Research in Child Development.** (2:2:0) F. Porter
- 661 (661). **Dynamics of Family Interaction.** (2:2:0) S. Prerequisite: H.D.F.R. 360. Porter
- 663 (663). **Critical Problems in Family Life.** (2:2:0) F. Prerequisite: H.D.F.R. 361. Cannon
- 664 (664). **Current Concepts and Research in Family Relationships.** (2:2:0) S. Porter
- 667 (667). **Problems of Teaching Marriage and Family Relationships in College.** (2:2:0) Su. Staff
- 685 (685). **Developmental Use of Play Experiences.** (2:2:0) S. Prerequisite: consent of instructor. Staff
- 692, 693 (692, 693). **Seminar.** (2:2:0 ea.) F.S. Anderson, Cannon, Porter
- 697 (697). **Independent Research.** (1-3:1-3:0) F.S.Su. Anderson, Cannon, Porter
- 699 (699). **Thesis for Master's Degree.** (1-4:1-4:0) F.S.Su. Anderson, Cannon, Porter
- 780 (780). **Marriage and Family Counseling.** (2:2:0) F. Prerequisites: H.D.F.R. 580; E.R.S. 625; consent of instructor. Anderson
- 781 (781). **Case Analysis in Marriage Counseling.** (2:2:0) S. Prerequisite: H.D.F.R. 780. Anderson
- 785, 786 (785, 786, 787). **Internship in Marriage Counseling.** (3:1:6 ea.) F.S. Prerequisites: H.D.F.R. 780 and 781. Staff
- 792 (792). **Seminar in Marriage Counseling.** (2:2:0) S. Anderson
- 794 (794). **Special Topics in Human Development.** (1-2:1-2:0) S.F.Su. Anderson, Cannon, Porter
- 795 (795). **Special Topics in Family Relationships.** (1-2:1-2:0) F.S.Su. Anderson, Cannon, Porter
- 797 (797). **Doctoral Candidate Research.** (2-4:2-4:0) F.S.Su. Anderson, Cannon, Porter
- 799 (799). **Dissertation for the Ph.D. Degree.** (Arr.) F.S.Su. Anderson, Cannon, Porter

A maximum of seven credit hours may be selected to apply toward a major in H.D.F.R. from the following courses:

Anthropology 101 (100). Introductory Anthropology. (3:3:0)

Instruction 325 (325). Arts and Crafts for Early Childhood. (2:2:1)

Instruction 340 (340). Children's Literature. (2:2:0)

Educational Research and Services 540 (540). Statistical Methods. (2:2:0)

Nursing 288 (288). Family Health and Home Nursing. (2:2:0)

Educational Research and Services 541 (541). Advanced Statistics. (2:2:0)

Psychology 321 (321). Psychology of Adolescence. (2:2:0)

Psychology 340 (340). Mental Health. (2:2:0)

Psychology 350 or Sociology 350 (Psychology 350 or Sociology 350). Social Psychology. (3:3:0)

Psychology 445 (445). Exceptional Children. (2:2:0)

Psychology 550 (550). Psychology of Personality. (3:3:0)

Recreation 371 (371). Planning for Family and Neighborhood Recreation. (2:2:0)

Sociology 403 (403). Marriage and the Family in American Society. (2:2:0)

Sociology 560 (560). Family and Kinships. (2:2:0)

Humanities

Ralph A. Britsch, in charge (308 McKay).

(An interdepartmental area only.)



Lower Division Course

101 (101). An Introduction to the Humanities. (3:3:0) F.S.Su. (G-HA)

Monson, Staff

A study of the forms of creative expression as revealed in literature, painting, sculpture, architecture, and music. (One hour's credit from this class may be applied toward fulfilling the general education requirement in literature. The two remaining hours may be counted toward fulfilling the humanities requirement, but the student must also take courses in a third department from those listed under humanities and aesthetics.)

Industrial Education

Professors: Jeppsen (Coordinator of Technical and Industrial Education), Snell (emeritus).

Assistant Professors: Pierce (chairman, 219 I.E.), Gammett, McArthur.

Instructors: Long, McKinnon.



The Industrial Education Department provides three different programs of instruction.

1. **The Industrial Education Program**, offering instruction toward the bachelor's degree in industrial arts teacher education and the master's degree in industrial education. These programs are designed to prepare successful teachers and supervisors for state certification.
2. **The Technology Program**, offering instruction toward the bachelor's degree in construction, drafting, machine tools, and welding technology; and the two-year technical certificate in these same fields.
3. **The General Service Courses**, open to all college students. These courses offer basic training in fundamental operations and processes, and are designed to give exploration, guidance, and consumer knowledge in modern industrial fields.

The general objectives of these programs are to render maximum service to students in their preparation for good citizenship and community living and to better prepare them for a more successful and productive life.

INDUSTRIAL ARTS TEACHER EDUCATION

Major—Industrial Arts

Minor—Crafts, Drawing, Electricity, Metalwork, or Woodwork

INDUSTRIAL ARTS TEACHING MINORS

- A. **Craftwork (17 semester hours).**
Drawing 109; I.E. 160, 250, 260, 360; Art 256, 352, 366.
- B. **Drawing (17 semester hours).**
Drawing 110, 111, 155, 156, 210, 310, 311.
- C. **Electricity (17 semester hours).**
Math 122; I.E. 240 or E.T. 101; I.E. 341; E.T. 102; and 8 hours selected from the following: E.T. 110, 241, 242, 261, 262.
- D. **Metalwork (16 semester hours).**
I.E. 120, 125, 130, 131 or 325, 139, 335, 336, 337.
- E. **Woodwork (16 semester hours).**
I.E. 100, 105, 200; and 8 hours selected from the following: I.E. 119, 201, 210, 211, 301.

REQUIREMENTS FOR THE INDUSTRIAL ARTS EDUCATION CERTIFICATE

Students planning to become teachers are encouraged to seek advisement early concerning the secondary teacher education program. Any attempt to complete one phase ahead of schedule complicates the smooth functioning of the program. Students beginning their professional preparation in the senior year may find it necessary to devote part of a fifth year to complete the program.

GENERAL EDUCATION REQUIREMENTS

See "General Education Requirements" toward the front of this catalog. These requirements are the same for all students who graduate from the University. They should be distributed throughout the four-year program.

EDUCATIONAL REQUIREMENTS FOR CERTIFICATION

See the requirements listed by the College of Education.

Note, however, that Industrial Education 377 and 479 must be taken in the Industrial Education Department, not in the Department of Instruction.

MASTER OF SCIENCE DEGREE IN INDUSTRIAL EDUCATION*

Majors—Industrial Arts Education or Technical Education

Suggested Minors—Education and Psychology, Guidance and Counseling, Personnel and Industrial Relations, Supervision and Administration, Business Administration, or Industrial Management

Major requirements: 18 to 22 semester hours selected from the following:

Courses	Hours
561, History and Trends in Industrial and Technical Education	2
566, Philosophy of Industrial and Technical Education	2
575, Analysis in Industrial and Technical Education	2
535, Course Construction in Industrial and Technical Education	2
585, Tests and Measurements in Industrial and Technical Education	2
570, School Shop Classification and Planning	2
540, Occupational Information	2
610, Administration, Coordination, and Supervision of Industrial and Technical Education	2
594, 595, 596, Curriculum Problems in Industrial and Technical Education	2-6
693, 694, 695, Reading and Conference	2-4
Statistics	2-4

Minor requirements: 10 to 14 semester hours selected in consultation with advisor. See above list of suggested minors.

Thesis: 6 to 8 semester hours.

*Master of Industrial Education is available with a field project substituted for thesis.

Entrance Requirements:

In addition to the "Requirements for the Master's Degree" listed in this catalog, the Industrial Education Department requires:

- Satisfactory completion of 12 semester hours in Industrial and Technical Education undergraduate courses prior to or concurrently with the graduate work.
- Satisfactory completion of a qualifying examination given by the Industrial Education Department.
- Satisfactory completion of 3 years or more of successful teaching ex-

perience before graduation with the Master of Industrial Education Degree.

Freshman Year			
Course	F	S	
I.E. 105, 100	2	3	
I.E. 139, 120	2	2	
Drawing 110, 109	2	1	
History 170 or 180, Math 105 or 111	3	5	
English 111, 112	3	3	
Physical Education	1	1	
General education	2		
Religion	2	2	
	<hr/> 17	<hr/> 17	

Sophomore Year			
Course	F	S	
I.E. 130, 125	2	2	
I.E. 200, 240	3	3	
Drawing 111, I.E. 260	2	3	
General education	7	7	
Health 130	2		
Religion	2	2	
	<hr/> 18	<hr/> 17	

Junior Year			
Course	F	S	
I.E. 360, 341	3	2	
I.E. 250	2		
Instr. 301	2		
I.E. 377		3	
Health 362	2		
General education	2	4	
Minor	5	6	
Religion	2	2	
	<hr/> 18	<hr/> 17	

Senior Year			
Course	F	S	
I.E. 479	8		
I.E. 405		2	
I.E. 470		2	
E.R.S. 550		2	
E.R.S. 403	4		
Instr. 405		2	
Ed. Adm. 410	3		
General education		2	
Minor		5	
Religion	2	2	
	<hr/> 17	<hr/> 17	

CONSTRUCTION TECHNOLOGY

Four-year Technician Degree

Freshman Year			
Course	F	S	
I.E. 100, 105	3	2	
I.E. 139, 125	2	2	
Drawing 155	2		
Math. 121, 122	4	4	
English 111, 112	3	3	
General education		3	
Physical Education	1	1	
Religion	2	2	
	<hr/> 17	<hr/> 17	

Sophomore Year			
Course	F	S	
I.E. 201, 218	3	2	
I.E. 210, 211	3	2	
Drawing 156, 255	3	3	
Health 130, I.E. 341	2	2	
Physics 105, 106	3	3	
General education	3	3	
Religion	2	2	
	<hr/> 19	<hr/> 17	

Junior Year			
Course	F	S	
I.E. 301, 317	3	2	
C.E. 320, Drawing 310	3	3	
E.T. 205, 206	3	3	
General education	4	2	
Minor	3	5	
Religion	2	2	
	<hr/> 18	<hr/> 17	

Senior Year			
Course	F	S	
I.E. 410, 411	3	3	
Drawing 455, 355	2	3	
Econ. 461, Accounting 201	2	4	
Bus. Mgt. 367	2		
General education	4	3	
Minor	3	3	
Religion	2	2	
	<hr/> 18	<hr/> 18	

Two-year Technical Certificate

Freshman Year			Sophomore Year		
Course	F	S	Course	F	S
I.E. 100, 200	3	3	I.E. 201, 341	3	2
I.E. 105, 125	2	2	I.E. 210, 211	3	2
I.E. 139, 218	2	2	Drawing 156, 255	3	3
Drawing 155		2	C.E. 320, I.E. 411	3	3
English 111, 112	3	3	Applied Physics, Econ. 461	3	3
General education, Applied Math.	4	2	I.E. 317		2
Physical Education	1	1	Religion	2	2
Religion	2	2		17	17
	17	17			

DRAFTING TECHNOLOGY**Four-year Technician Degree**

Freshman Year			Junior Year		
Course	F	S	Course	F	S
Drawing 110, 111	2	2	I.E. 210	3	
Drawing 155, 156	2	3	Drawing 355, 356	3	3
Math. 121, 122	4	4	Drawing 310, 311	3	3
English 111, 112	3	3	E.T. 205, 206	3	3
Health 130	2		General Education	1	3
Physical Education	1	1	Minor	3	4
General Education	3	3	Religion	2	2
Religion	2	2		18	18
	19	18			

Sophomore Year			Senior Year		
Course	F	S	Course	F	S
I.E. 130		2	I.E. 411, Econ. 461	3	2
I.E. 100, 125	3	2	Drawing 410, 449	3	3
Drawing 255, 256	3	2	Drawing 455, 495	3	3
Drawing 210, 257	2	2	General Education	4	4
Physics 105, 106	3	3	Minor	3	4
General education	5	5	Religion	2	2
Religion	2	2		18	18
	18	18			

Two-year Technical Certificate

Freshman Year			Sophomore Year		
Course	F	S	Course	F	S
Drawing 110, 111	2	2	Drawing 310, 311	3	3
Drawing 155, 156	2	3	Drawing 410, 455	3	2
Appl. Math., Appl. Physics	3	3	Drawing 449, 495	3	3
English 111, 112	3	3	Religion	2	2
General education	4	3		17	18
Physical education	1	1			
Religion	2	2			
	17	17			

Sophomore Year Mechanical Engineering			Architectural Engineering		
Course	F	S	Course	F	S
I.E. 130, 131	2	2	I.E. 211, Econ. 461	2	3
I.E. 125, E.T. 205	2	3	I.E. 210, 411	3	3
Drawing 210, Econ. 461	2	3	Drawing 210, 257	2	2
			Drawing 255, 256	3	2
			Drawing 355, 356	3	3
			Drawing 310, 455	3	2
			Religion	2	2
				18	17

MACHINE TOOL TECHNOLOGY**Four-year Technician Degree**

Freshman Year			Junior Year		
Course	F	S	Course	F	S
I.E. 130, 131	2	2	I.E. 332, 333	3	3
I.E. 130-A, 131-A	3	3	I.E. 335, 336	2	2
Drawing 110, 111	2	2	E.T. 205, 206	3	3
Math. 121, 122	4	4	General education	4	4
English 111, 112	3	3	Minor	2	4
General education	1	1	Religion	2	2
Physical Education	1	1	Elective	2	
Religion	2	2		18	18
	18	18			
Sophomore Year			Senior Year		
Course	F	S	Course	F	S
I.E. 230, 231	5	5	I.E. 431, 432	3	3
I.E. 120, 125	2	2	I.E. 337, E.T. 216	2	3
Drawing 311	3		Drawing 410,		
Physics 105, 106	3	3	Econ. 461	3	2
Health 130	2		General education	3	3
General Education	2	6	Minor	4	4
Religion	2	2	Religion	2	2
	19	18		17	17

Two-year Technical Certificate

Freshman Year			Sophomore Year		
Course	F	S	Course	F	S
I.E. 130, 131	2	2	I.E. 230, 231	5	5
I.E. 130-A, 131-A	3	3	I.E. 335, 336	2	2
I.E. 125	2		Applied Physics,		
Drawing 110, 111	2	2	Econ. 461	3	2
Applied Math.	2	2	English 111, 112	3	3
Physical Education	1	1	Religion	2	2
Religion	2	2	Electives	3	3
Electives	4	5		18	17
	18	17			

WELDING TECHNOLOGY**Four-year Technician Degree**

Freshman Year			Sophomore Year		
Course	F	S	Course	F	S
I.E. 121, 126	5	5	I.E. 221, 226	5	5
Drawing 110, 111	2	2	I.E. 222, 227	2	3
Math. 121, 122	4	4	Drawing 311, I.E. 130	3	2
English 111, 112	3	3	Chemistry 101		4
Physical Education	1	1	Physics 105	3	
Religion	2	2	Health 130	2	
	17	17	Religion	2	2
			General education	2	2
				19	18

Junior Year			Senior Year		
Course	F	S	Course	F	S
I.E. 335, 326	2	3	I.E. 423, 426	2	3
E.T. 205, 206	3	3	Ind. Mgt., I.E. 428	2	3
E.T. 216	3		Ind. Supr.	2	
Minor or I.E. electives ..	3	5	Econ. 461	2	
General education	4	4	General education	3	6
Religion	2	2	Religion	2	2
	—	—	Minor or I.E. electives	4	4
	17	17		—	—
				17	18

Two-year Technical Certificate

Freshman Year			Sophomore Year		
Course	F	S	Course	F	S
I.E. 121, 126	5	5	I.E. 221, 226	5	5
Drawing 110, 111	2	2	I.E. 335, 227	2	3
Math.	2	2	I.E. 130, 222	2	3
English 111, 112	3	3	Physics	2	2
Physical Education	1	1	General education	5	3
Religion	2	2	Religion	2	2
General education	2	2		—	—
	—	—		18	18
	17	17			

INDUSTRIAL EDUCATION

Lower Division Courses

- 99 (99). Shop Mathematics. (0:2:0) S. Pierce
- 100 (103, 104). Woodwork. (3:1:5) F.S. McKinnon
Care and use of hand and machine woodworking tools applied in fundamental principles of sawing, joining, fitting and fastening.
- 105 (101). Wood Finishing. (2:1:3) F.S. Staff
Preparation of surfaces for the application of finishes, staining, painting, varnishing, lacquering, polishing, etc. Use of brush and air gun.
- 119 (119). Upholstery. (2:1:3) F.S. Gamett
Typical forms of upholstery, including foundations with and without springs.
- 120 (120). Acetylene Welding. (2:1:3) F.S. Long
Principles and practices in the fundamentals of oxy-acetylene welding and cutting of steel. A general course open to all college students.
- 125 (125). Electric Welding. (2:1:3) F.S. Long
Principles and practices with electric welding equipment. Methods used in arc-welding of steel in flat position. A general course open to all college students.
- 130 (130). Machine Practice. (2:1:3) F.S. McArthur
Use of hand tools in bench work, with engine lathe, drill press, and grinding operations.
- 130A (New). Machine Practice Laboratory. (3:0:9) F. Prerequisite: concurrent registration in I.E. 130. McArthur
Laboratory experience in operation of the lathe and drill press and use of fundamental hand tools including layout.
- 131 (330). Machine Practice. (2:1:3) S. Prerequisite: I.E. 130. McArthur
Operations in the use of the lathes, shapers, and milling machines.

- 131A (New). Machine Tool Operation.** (3:0:9) S. Prerequisite: concurrent registration in I.E. 131. McArthur
Laboratory experience in operation of lathes, shapers, milling machines and grinders.
- 139 (140). Sheet Metal and Ornamental Iron.** (2:1:3) F.S. McKinnon
Projects in sheet metal, ornamental iron work, and pattern layout.
- 160 (260). Recreational Handicrafts.** (2:1:3) F.S. McArthur
Students may work in a selected area according to their interests: woodwork, metalwork, plastics, lapidary work, etc. Course is open to all students interested in leisure time activities.
- 188 (150, 205). Farm Machinery.** (3:1:5) F. Staff
Care and maintenance of general farm equipment.
- 189 (207). Gas and Diesel Engines.** (3:1:5) S. Staff
Designed for agricultural students. Care and maintenance of gas and diesel engines.
- 200 (104, 105). Woodwork.** (3:1:5) F.S. Prerequisite: I.E. 100. McKinnon
Use of hand and machine tools in the construction of furniture. Drawings, specifications, and cost estimates of all projects are submitted by the students.
- 201 (302, 303). Cabinet Construction.** (3:1:5) F. Prerequisite: I.E. 200. McKinnon
Design and construction of cabinets used in residential structures.
- 210 (308). Carpentry.** (3:1:5) F. Prerequisite: Drawing 155. McKinnon
Practical problems in forming, framing, sheathing, and insulation.
- 211 (309). Carpentry.** (2:1:3) S. Prerequisite: I.E. 210. McKinnon
Practical problems in interior and exterior trim.
- 218 (403). Plumbing.** (2:1:3) S. McKinnon
Plumbing and plumbing layout.
- 221 (New). Acetylene Welding.** (5:2:8) F. Prerequisite: I.E. 121. Staff
Advanced practices in all phases of oxy-acetylene welding, including ferrous and non-ferrous metals.
- 222 (New). Welding Construction.** (3:1:5) S. Prerequisites: I.E. 121, 126. Staff
Methods of layout, forming, cutting and joining steel and alloy plates and shapes as applied to structures and machinery construction.
- 226 (New). Electric Welding.** (5:2:8) S. Prerequisite: I.E. 126. Staff
Principles and practices in position welding of commonly used joints with some work in hard facing, stainless steel, and nickel alloys.
- 227 (New). Inert-Gas Welding.** (3:1:5) S. Prerequisites: I.E. 121, 126. Staff
Principles and practices of inter-gas (heliarc) welding of ferrous and non-ferrous metals.
- 230 (332). Machine Shop Production.** (3:1:5) F. Staff
Construction and assembly of a basic machine with emphasis on production methods.
- 231 (New). Manufacturing Processes.** (5:3:6) S. Prerequisite: I.E. 230. Staff
A study of and laboratory experience in problems dealing with manufacturing of machines and machine products.
- 240 (360). Electricity.** (3:2:4) F.S. McArthur
Fundamentals of electricity, including DC and AC motors and generators.

- 250 (270). Graphic Arts. (2:1:3) F.** Staff
Fundamentals of the printing industry such as type-setting, book-binding, etc.
- 260 (108, 260, 464). Crafts. (3:1:5) S.** Staff
Fundamental hand and machine operations used in working plastics and wood.

Upper Division Courses

- 301 (303, 304). Mill Work. (3:1:5) F.** Prerequisites: I.E. 200, Drawing 111. Staff
Doors, windows, moldings, and other mill practices are stressed.
- 317 (401). Masonry. (2:1:3) S.** Staff
Practice in laying up cinder or concrete blocks into simple walls as needed for farm structures.
- 319 (319). Upholstery. (2:1:3) F.S.** Prerequisite: I.E. 119. Gamett
Advanced work in upholstery.
- 325 (320). Welding. (2:1:3) F.** Staff
Advanced work in acetylene and electric welding. For students not majoring in welding technology.
- 332 (New). Production Planning. (3:2:4) S.** Prerequisite: I.E. 231. Staff
A study of production methods and problems arising through assembly processes.
- 333 (New). Inspection and Control. (3:2:4) S.** Prerequisite: I.E. 332. Staff
A study of inspection methods and control of machine products. Needed for machine tool technology degree.
- 335 (432). Heat Treating and Metallurgy. (3:3:3) F.** Staff
A study of the properties of metal and effects of temperature change.
- 336 (New). Heat Treatment. (2:1:3) S.** Prerequisite: I.E. 335. Staff
A study of thermal affects in processing of steel products.
- 337 (350). Pattern Making and Foundry Practice. (2:1:3) F.** Prerequisite: I.E. 103. Staff
Principles of pattern making taught through wood patterns and sand castings of machine parts.
- 341 (365). Electricity. (2:2:2) F.S.** McArthur
Electrical circuits in homes and farm buildings.
- 360 (260, 466). Crafts. (3:1:5) F.** Staff
Projects in metal. Hand tooling in brass, copper, and aluminum; soldering and spinning.
- 377 (377). Secondary Teaching Procedures. (3:3:0) F.S.** Prerequisite: E.R.S. 305. Gamett
Classroom procedures and objectives of industrial arts. See Instruction 377.
- 405 (301). Shop Maintenance. (2:1:3) F.S.** Staff
Care and maintenance of tools and machines.
- 410 (306). Construction Materials and Methods. (3:3:0) F.** McKinnon
Theoretical aspects of building, location, soil conditions, footings material, and equipment.
- 411 (307). Estimating. (3:3:0) S.** Taught alternate years. Prerequisite: Drawing 155. Staff
Interpreting plans and specifications. Methods of estimating and figuring costs of materials and labor.

- 431 (New). **Tool Construction.** (3:1:5) F. Prerequisites: I.E. 231, 336. Staff
A study of construction and design principles affecting machine tools.
- 432 (New). **Die Construction.** (3:1:5) S. Prerequisite: I.E. 231, 336. Staff
A study of construction and design principles affecting the manufacture of dies.
- 470 (370). **Shop Planning.** (2:2:2) S. Staff
Planning and organizing the physical plant for different types of school shops.
- 479 (479). **Objectives and Practices in Teaching I.A.** (8:0:30) F.S. Gamett
Student teaching. Material is prepared and principles and objectives of the industrial arts program is formulated and discussed.
- 490 (490). **Special Problems in Metals.** (Arr.) F.S.Su. Staff
- 491 (490). **Special Problems in Wood.** (Arr.) F.S.Su. Staff
- 492 (490). **Special Problems in Electricity.** (1-3:Arr.:Arr.) F.S.Su. Staff
- 493 (490). **Special Problems in Crafts.** (1-3:Arr.:Arr.) F.S.Su. Staff
- 494 (490). **Special Problems in Graphic Arts.** (1-3:Arr.:Arr.) Arr. Staff

DRAWING

Lower Division Courses

- 100 (107). **Free-hand Lettering.** (1:0:1) F.S. Staff
Practice in lettering as applied in engineering and architectural drawing.
- 109 (109). **Industrial Arts Design.** (1:1:1) S. Staff
Fundamental elements and processes of design in industrial arts.
- 110 (102). **Mechanical Blueprint Reading.** (2:2:2) F.S. Pierce
A fundamental course in blueprint reading. Covers instruction necessary to understand the purposes and the relation between specifications and drawings as used in industry.
- 111 (113). **Mechanical Drawing.** (2:1:5) F.S. Home Study also. Prerequisite: Drawing 110. Pierce
Care and use of instruments, lettering, applied geometry and orthographic projection.
- 155 (106). **Architectural Blueprint Reading.** (2:2:2) F.S. Staff
A fundamental course designed to teach students how to read and interpret architectural drawings.
- 156 (244, 245). **Architectural Drawing.** (3:1:5) F.S. Home Study also. Prerequisite: Drawing 110 or 155. Snell
Small-house plans, elevations, sections and details.
- 210 (246). **Descriptive Geometry.** (2:1:3) F. Prerequisite: Drawing 111 or 156. Snell
Principles relating to point, line, plane, cylinder, cone and double curved surfaces, etc. with application to practical problems.
- 255 (245, 248). **Architectural Drawing.** (3:1:5) F.S. Home Study also. Prerequisite: 156. Snell
Development of small house plans with methods of drawing architectural perspectives, shades and shadows.
- 256 (249). **Rendering.** (2:1:3) F.S. Prerequisite: Drawing 255. Snell
Wash rendering practice plates and rendering of architectural elements.

- 257 (354). Topographical Drawing.** (2:1:3) F.S. Prerequisite: Drawing 111 or 156. Snell
Topographical symbols, mapping and plotting.

Upper Division Courses

- 310 (204, 301). Pipe, Electrical and Sheet Metal Layout.** (3:1:5) S. Prerequisite: Drawing 111 or 156. Pierce
Intersections, developments and triangulation; electrical symbols, lighting and service layouts; design and layout of piping systems.
- 311 (380, 382). Mechanical Drawing.** (3:1:5) F. Prerequisite: Drawing 111. Pierce
Machine fastenings, technical sketching, working drawings, detailing, jigs and fixtures.
- 355 (341, 342). Architectural Design.** (3:1:5) F.S. Prerequisite: Drawing 156. Snell
Planning and designing residential structures.
- 356 (342, 343). Architectural Design.** (3:1:5) F.S. Prerequisite: Drawing 355. Snell
Students design and plan a small commercial building with complete working drawings.
- 410 (382, 401). Mechanical Drawing and Production Illustration.** (3:1:5) F.S. Prerequisite: Drawing 311. Pierce
Application of pictorial drawing to problems of assembly in industry.
- 449 (495). Special Problems in Mechanical Drawing.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: Drawing 410. Staff
- 455 (444). Structural Fabrication Design.** (2:1:3) F. Prerequisites: Mathematics 122, Drawing 311. Staff
Drawing of plans for framing and erection in steel, wood, and concrete.
- 495 (495). Special Problems in Architectural Drawing.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: Drawing 356. Staff

Instruction



- Professors:** Callahan, Clarke, Law.
- Associate Professors:** D. C. Christensen (chairman, 153 McKay), Campbell, Daines.
- Assistant Professors:** Alder, Babcock, Berryessa, L. Christensen, Crnkovic, Flandro, Hammond (emeritus), McPhie, Ord, Tyndall, Utley, Wilcox.
- Instructors:** Lindeman, Memmott, Miles.
- Laboratory and Methods Teachers:** Bennett, Brown, Carlisle, H. Clark, W. Clark, Darley, Davidson, Gagon, Glazier, Hogan, Miller, Nelson, Rasband, Rogers, Sandberg, Wells.

The offerings in this department are intended to assist teachers in the development of the skills involved in the act of instruction, whether it be in or out of the classroom, at any level or in any subject-matter area of education. Courses sponsored exclusively by this department are usually limited to those in which methodology of teaching or problems in organizing materials for teaching are the dominant content.

The offerings in instruction are presented under the following divisions: general, elementary, secondary, college, and special study.

GENERAL INSTRUCTION

Courses listed under "General Instruction" serve the needs of all levels of teaching.

Upper Division Courses

- 300 (300). Teaching in the Church. (2:2:0) F.S. (G-R)** Staff
Equivalent to the Church Teacher Training Program. Does not apply to state certification; however, it may fill religious requirements of the University.
- 301 (301). Basic Concepts of Teaching. (2:2:0) F.S.Su.** Staff
For potential elementary and secondary teachers, regardless of level or field. An exposition of a simple and operational concept of teaching consisting of these three elements: the objective, the learning experience, and receptiveness to learning.
- 405 (405). Analysis of Teaching. (2:2:0) F.S.Su.** Prerequisite: student teaching completed or 2 years of teaching experience. Staff
For both prospective elementary and secondary teachers. Analysis of teaching plans and experiences. Also the discussion of the use of principles to analyze and clarify concepts and practices in teaching.
- 406 (406). Teaching Materials Laboratory (Audio-Visual Aids). (2:2:1) F.S.Su.** Staff
Introduction to and production of audio-visual aids by individuals.

Graduate Courses

- 605 (605). Development of Instructional Materials (Audio-Visual Aids).** (2:2:1) F.S.Su. Prerequisite: Instruction 406 or equivalent. Staff
An advanced course designed to follow Instruction 406. Principles of learning and the unique contributions of instructional materials to the curriculum. Of primary concern is the selection, integration, sources, and administration of instructional materials. Construction and use of specialized materials.
- 608 (608). Radio, Television, and Motion Picture Photography in Education.** (2:2:1) Su. Staff
Utilization in the classroom and in public relations. Current programs, production techniques, recording of programs, and the role of mass media in learning. The development and potential of educational television is considered.
- 612 (612). Supervision of Student Teachers.** (2:2:0) Su. Staff
For those desiring a well-rounded view of the student teaching program with emphasis on the specific role of the cooperating teacher.
- 614, 615, 616 (614, 615, 616). Analysis of In-Service Problems.** (1-3:1-3:1) F.S.Su. Staff

ELEMENTARY INSTRUCTION

Upper Division Courses

- 320 (320). Basic Classroom Procedures.** (3:3:0) F.S.Su. Prerequisite: Instruction 301. Staff
For prospective elementary teachers. Identification of teacher and pupil activities required for conceptual learning and for the following related types of subject-matter and teaching: symbolic, performance ability, and habit. Also, lectures, demonstrations, and participation in non-instructional activities at an elementary school.
- 321 (321). Reading and Arithmetic.** (3:3:0) F.S.Su. Prerequisites: Instruction 301, 320. Staff
For prospective elementary teachers. An extension of Instruction 320, with special application to reading and arithmetic.
- 324 (324). Arts and Crafts for Elementary Teachers.** (2:2:1) F.S.Su. Staff
Simple weaving, puppetry, paper mache, clay modeling, and other activities suitable for children.
- 325 (325). Arts and Crafts for Early Childhood.** (2:2:1) F.S.Su. Staff
Exploring ideas and materials for the young child.
- 338 (338). Manuscript Writing.** (1:1:0) F.S.Su. Staff
A class to develop skill in manuscript writing.
- 340 (340). Children's Literature.** (2:2:0) F.S.Su. Staff
Evaluation of significant books, past and present, that meet children's needs.
- 422 (422). Kindergarten Proficiency.** (2:2:0) F.S.Su. Staff
Organization of programs, lesson planning, methods and materials, and best practice in early childhood education (ages four to nine) with emphasis on the theory and practice in kindergarten. (Requirement for H.D.F.R. majors and for certification in kindergarten proficiency.)
- 449 (448, 449). Elementary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Instruction 301, 320, 321. Staff

Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Spe-

cial attention to on-the-job lesson planning and unit organization. Seminar on student-teaching problems is held weekly. (A laboratory fee of \$45.00 is charged, payable upon application for student teaching.)

An application for a specific assignment must be filed with the Teacher Certification Office three months in advance of receiving an assignment. Student teachers are expected to do much responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school as well as to participate in seminars and conferences with their supervisors. During this period of student teaching the student must limit his load to the student teaching registration only.

Advanced Undergraduate or Graduate Courses

- 534 (529, 534). **Improved Practices in Elementary Teaching.** (3:3:1) F.Su. Staff
Study of current concepts in elementary education with observation and analysis of some of the best practices. Designed to meet the needs of speech majors, persons seeking a refresher course, and prospective administrative personnel in the elementary schools.

Graduate Courses

- 622 (622). **Advanced Study in Early Childhood Education.** (2:2:0) F.Su. Staff
Theory and analysis of current practice in schools as related to the significance of early childhood education.
- 623 (623). **Science in the Elementary School.** (2:2:0) S.Su. Staff
Designed to give experienced teachers insight into the teaching of elementary science. Includes concentration in unit instruction and methods of presenting science concepts to children.
- 624 (624, 633). **Advanced Arts and Crafts for Elementary Teachers.** (2:2:1) F.Su. Prerequisite: consent of instructor. Staff
Exploring ideas and materials appropriate for children in the elementary school.
- 626 (626). **Arts and Crafts for the Handicapped.** (2:2:1) Su. Staff
Arts, crafts, and other media as they may be adapted to meet the needs of individuals with disabilities.
- 631 (631). **Curriculum Development in the Elementary School.** (2:2:0) F.Su. Not open to students who have taken Instruction 656. Staff
Study of principles and procedures for organizing the instructional program; patterns of curriculum organization; and techniques for change, evaluation and stabilization of the curriculum.
- 635 (635). **Social Studies in the Elementary School.** (2:2:0) S.Su. Staff
A refresher course emphasizing the scope and sequence of social studies program, its objectives in developing democratic citizenship, and the methods employed in accomplishing this aim.
- 641 (641). **Language Arts in the Elementary School.** (2:2:0) F.Su. Staff
Best practices in modern methods of instruction in listening, speaking, reading, and writing with their related skills.
- 642 (642). **Reading in the Elementary School.** (2:2:0) F.Su. Staff
An overview of the reading program; long term and daily planning problems analyzed; word attack skills reviewed; comparison of different programs discussed. Opportunities are provided students to work on their own problems in teaching reading.
- 644 (644). **Arithmetic in the Elementary School.** (2:2:0) S.Su. Staff
Concepts in arithmetic which children need, and various activities which will help students acquire correct arithmetical concepts. Special attention on the contributions of research in teaching arithmetic.

- 646 (646).** Development of Instructional Methods in the Elementary School. (2:2:0) S.Su. Not open to students who have taken Instruction 676. Staff
Problems, principles, and issues of method. Assessing readiness, problems of organizing pupils for instruction, guiding and pacing, selection of materials, and evaluation.

SECONDARY INSTRUCTION

Upper Division Courses

- 354 (354).** Methods and Materials of Instruction in Secondary Schools. (3:3:0) F.Su. Staff
Designed to meet certificate needs of secondary teachers in Idaho.
- 377 (377, 478).** Secondary Teaching Procedures. (3:3:1) F.S.Su. Prerequisite: Instruction 301. Staff
Identification of teacher and pupil activities required for conceptual learning and for each of the following types of subject-matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in non-instructional activities at a high school.
- 479 (478, 479).** Secondary Student Teaching. (4-8:0:20-40) F.S. Prerequisites: Instruction 301, 377. Staff
Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. (A laboratory fee of \$45.00 is charged, payable upon application for student teaching.)

An application for a specific assignment must be filed with the Teacher Certification Office three months in advance of receiving an assignment. Student teachers are expected to do much responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school as well as to participate in seminars and conferences with their supervisors. During this period of student teaching the student must limit his load to the student teaching registration only.

Graduate Courses

- 656 (656).** Curriculum Development in the Secondary School. (2:2:0) S.Su. Not open to students who have taken Instruction 631. Staff
Analysis of secondary curriculum development in terms of psychological and philosophical principles. Curriculum issues, trends, and current practices are examined.
- 659 (659, 661).** Secondary School Curriculum Workshop. (2:2:0) F.S. Staff
- 663 (663).** Directing Out-of-Class Activities in Secondary Schools. (2:2:0) Su. Staff
Examination of successful practices in scheduling and directing out-of-class activities. The effect of current scientific curriculum emphasis on out-of-class activities is explored.
- 667 (667).** Teaching of Reading in the Secondary Schools. (2:2:0) Su. Staff
Methods of teaching reading in the secondary school and their adaptation. Role of the subject-matter specialist in the secondary reading program.
- 670 (670).** Teaching Mathematics and Science in Secondary Schools. (2:2:0) S. Su. Staff
- 672 (672).** Teaching Social Studies in Secondary Schools. (2:2:0) S.Su. Staff
Designed to broaden the understanding of curriculum and instruction in secondary school social studies. Relates methods and techniques to the objectives of the social studies.
- 673 (673).** Teaching Speech in Secondary Schools. (2:2:0) Su. Staff

- 676 (676). Development of Instructional Methods in the Secondary School.** (2:2:0) F.Su. Not open to students who have taken Instruction 646. Staff
 A general, intensive analysis of the instructional methods used at the secondary level utilizing principles developed from psychology, sociology, and philosophy.

COLLEGE INSTRUCTION

Graduate Courses

- 684 (684). Methods of Higher Education Instruction.** (3:3:1) S. Staff
685, 686 (685). Directed Teaching in Higher Education. (2:1:5 ea.) F.Su. Staff

SPECIAL STUDY

Upper Division Courses

- 490, 491 (490, 491). Seminar.** (1-2:1-2:0) F.Su. Staff
493, 494 (493, 494). Independent Reading. (1-2:1-2:0) F.S.Su. Staff

Graduate Courses

- 690, 691 (690, 691). Seminar.** (1-2:1-2:0) S.Su. Staff
693, 694 (693, 694). Independent Reading. (1-2:1-2:0) F.S.Su. Staff
696, 697 (696, 697). Independent Research. (1-2:1-2:0) F.S.Su. Staff
698 (698). Field Project. (Arr.) Arr. Staff
699 (699). Thesis for Master's Degree. (Arr.) Arr. Staff

Professor: Smith (chairman, 160 SSC).

Assistant

Professors: Butterworth, Davis, Haymore.

Instructors: Burnett, Duerden.

Journalism



The primary objective of this department is to prepare qualified students for professional careers in major areas of mass communications. This preparation includes a broad base of general education, thorough orientation in the functions and responsibilities of the institutions of communication in modern society, and the development of skills in fact-finding, analysis, and communication. In addition to the undergraduate concentrations listed below, graduate courses are offered leading to the master's degree.

For the general student, the department provides service courses in the development of communication skills, and courses 101 and 410 which are part of the University's general education offerings in Humanities and Aesthetics.

Students planning to major in the department should complete the general education requirements prescribed by the University, the departmental core curriculum, and one of the following concentrations: News-Editorial, Advertising and Public Relations, Radio-Television, or Journalism Education. Students transferring credit from another institution should confer with the department chairman to determine appropriate evaluation of work taken in the major field.

GENERAL EDUCATION

See the section of this catalog listing "Requirements for Graduation" for courses which may be taken during the freshman, sophomore, junior, and senior years to fill prescribed areas in general education.

Journalism majors are advised to obtain as broad a background as possible in the social sciences. Two years' study in a foreign language is recommended.

In filling the general education requirement in American history and government, it is recommended that majors in journalism take Political Science 110 and either History 121 or Economics 274. One of these combinations of courses should be taken in place of History 170 or 180.

DEPARTMENTAL CORE CURRICULUM

All journalism majors must complete the following core courses in the department, totaling 10 credit hours:

Freshman and Sophomore Years	Hours
101, Introduction to Mass Communications	2
211, Basic Reporting	2

Junior and Senior Years	Hours
410, History of Mass Communications	3
490, Practices and Problems in Mass Communications	3

I. NEWS-EDITORIAL CONCENTRATION

The News-Editorial Concentration is designed to prepare students for work on the news and editorial staffs of daily and weekly newspapers and press services. It emphasizes the gathering and evaluation of factual information, and seeks to develop competence in writing and editing news and feature material for publication. In addition to the core curriculum, each student must complete a minimum of 16 credit hours in Journalism, including 13 credit hours in the courses specified below:

Required Courses (15 hours)	Hours
111, Elementary Photography	2
212, Advanced Reporting	3
301, Typography and Printing Processes	2
307, Communication Law	2
321, Copyreading and Editing	3
323, Practical Reporting and Editing	3

Recommended Electives (3 hours to be selected)	Hours
315, Press Photography	2
330, Introduction to Advertising	2
566, Industrial Magazine Editing and Production	2
571, Magazine Article Writing	2

II. ADVERTISING AND PUBLIC RELATIONS CONCENTRATION

The Advertising and Public Relations Concentration provides an integrated program of study leading to professional work in advertising and public relations agencies, newspapers, radio and television stations, and advertising or public relations departments of manufacturing, business and public institutions. In addition to the core curriculum, each student must complete 12 credit hours in required journalism courses listed below, and at least 4 credit hours selected from either the Advertising or the Public Relations electives listed:

Required Courses (14 hours)	Hours
301, Typography and Printing Processes	2
330, Introduction to Advertising	2
331, Advertising Copy and Layout	2
351, Radio and Television Advertising	2
450, Advertising Media and Campaigns	3
561, Fundamentals of Public Relations	3

Advertising Electives (4 hours to be selected)	Hours
307, Communication Law	2
491, Projects in Communication Practice	1 or 2
555 (Business Management), Problems in Advertising	3

Public Relations Electives (4 hours to be selected)	Hours
212, Advanced Reporting	3
563, Projects in Public Relations	1
566, Industrial Magazine Editing and Production	2

At least 25 hours of the following additional courses, selected in consultation with his adviser, should be presented by each student in the Advertising and Public Relations Concentration: Advertising emphasis—Business Management 347, 455; Economics 101 or 111, 274, 331 or equivalent; Psychology 111. Public Relations emphasis—Business Management 420; Economics 101 or 111, 274, 461;

Psychology 111, 350; Sociology 111, 350, 446.

III. RADIO-TELEVISION CONCENTRATION

The Radio-Television Concentration offers a program of courses in Journalism and Speech to prepare students for work in advertising, news and programming positions for radio and television stations, networks and broadcasting service agencies. In addition to the core curriculum, the student must complete 12 credit hours in required courses listed below, and at least 6 credit hours selected from the list of recommended electives:

Required Courses (12 hours)	Hours
212, Advanced Reporting	3
241, Introduction to Radio-TV Broadcasting (Speech)	2
307, Communication Law	2
346, Radio and Television Production Workshop (Speech)	2
449, Radio and Television Programs and Audiences (Speech)	3
Recommended Electives (6 hours to be selected)	Hours
319, Motion Picture and Television Photography	2
330, Introduction to Advertising	2
351, Radio and Television Advertising	2
450, Advertising Media and Campaigns	3
452, 453, Radio and Television Announcing (Speech)	2
455, 456, Television Production and Direction Workshop (Speech)	4

IV. JOURNALISM EDUCATION CONCENTRATION

The Journalism Education Concentration is designed for students planning to teach journalism and related language arts subjects in secondary schools, or to supervise student publications and public information activities in high schools or junior colleges. Teacher-education courses and subject-matter requirements in major and minor areas are prescribed in the College of Education section of this catalog.

In addition to the departmental core curriculum, the student must complete 13 credit hours in required journalism courses listed below, and at least 5 credit hours selected from the list of recommended electives:

Required Courses (13 hours)	Hours
212, Advanced Reporting	3
301, Typography and Printing Processes	2
321, Copyreading and Editing	3
323, Practical Reporting and Editing	3
330, Introduction to Advertising	2
Recommended Electives (5 hours to be selected)	Hours
111, Elementary Photography	2
307, Communication Law	2
315, Press Photography	2
331, Advertising Copy and Layout	2
561, Public Relations	3

Supplementary Information

The requirements in the concentrations listed above may be modified to allow for previous experience or individual needs upon permission of the head of the department. For especially qualified students, individual programs of study may be outlined in photo journalism, broadcast news and advertising, or community journalism.

In addition to maintaining the minimum grade-point averages required by

the academic standards of the University, majors in this department must maintain a grade-point average of 2.5 or higher in all work taken in journalism. Not more than 36 credit hours in journalism may be included in the undergraduate program unless the student presents more than 124 credit hours for graduation with the baccalaureate degree.

Requirements for a Minor

The teaching minor in journalism includes 14 credit hours in courses 211, 212, 321, 323 and 490, plus 4 hours selected from courses 101, 111, 301, 330, and 410.

The general minor in journalism includes 14 credit hours selected from the departmental curriculum, preferably from the core curriculum and one of the concentrations listed above.

Lower Division Courses

- 101 (101). Introduction to Mass Communications.** (2:2:0) F.S. Home Study also. (G-HA) Staff
A survey of the media of mass communication and their functions in modern society.
- 111 (New). Elementary Photography.** (2:1:3) F. Duerden
A practical introduction to photography for the non-science student; laboratory exercises in the use of cameras and processing equipment.
- 211 (211). Basic Reporting.** (2:1:3) F.S.Su. Home Study also. Not open to freshmen. Staff
Elements of factual communication for printed and broadcast news media; study of newsgathering organization, news values and sources. Use of typewriter required.
- 212 (212, 311). Advanced Reporting.** (3:2:3) F.S. Prerequisite: Journalism 211. Staff
Newsgathering techniques; practice in handling assignments in politics, sports, society, science, law enforcement, and other news areas.

Upper Division Courses

- 301 (New). Typography and Printing Processes.** (2:2:2) F. Haymore
Lectures and laboratory exercises in selection and use of type and engravings in editorial and advertising content of newspapers and magazines; printing and engraving processes.
- 307 (307). Communication Law.** (2:2:0) S. Staff
Legal limits and privileges of press, radio and television; principles of libel, contempt, copyright and right of privacy.
- 315 (315). Press Photography.** (2:1:3) S. Prerequisite: 111 or equivalent. Duerden
Principles of photography for newspapers and periodicals; practice in the use of professional equipment for taking and processing news and advertising pictures.
- 319 (New). Motion Picture and Television Photography.** (2:2:1) Not offered in 1960-61. Staff
Principles of cinematography as a medium of communication; camera technique, script preparation, film editing, titling and narration.
- 321 (321, 322). Copyreading and Editing.** (3:2:3) F.S.Su. Prerequisites: Journalism 212, 301 (301 may be taken concurrently). Staff
Copyreading, headline writing, news evaluation, and page makeup for newspapers. The student works with city, suburban, and news service copy.

- 323 (311, 312, 323). Practical Reporting and Editing.** (3:1:8) F.S.Su. Prerequisite: Journalism 321. Staff
Supervised experience in reporting, copyreading, and editing assignments on the Daily Universe; individual conferences with instructor.
- 330 (330). Introduction to Advertising.** (2:2:0) F. Duerden
Principles of advertising and its role in the American economy; values to advertisers and media. Newspaper, radio, and television advertising are emphasized.
- 331 (331, 332). Advertising Copy and Layout.** (2:1:3) S. Prerequisites: Journalism 301, 330. Duerden
Study of reader interest, sales appeals, and production techniques for advertising in printed media. Students design retail and product advertisements for Daily Universe publication.
- 351 (351). Radio and Television Advertising.** (2:2:0) F. Davis
Advertising principles for broadcast media; study of research, station coverage, and audience measurement. Writing commercials, programs, spot announcements; time buying, production, transcription, and film services.
- 410 (305). History of Mass Communication.** (3:3:0) F. Home Study also. (G-HA) Smith
Development of American newspapers, magazines, and broadcast communication media from colonial beginnings to the present, viewed in relation to political, social, and economic history of the times.
- 450 (333, 352). Advertising Media and Campaigns.** (3:2:3) S. Prerequisites: Journalism 330, and either 331 or 351. Davis, Burnett
Research and planning of advertising campaigns as related to national and local objectives; media selection and budgeting; individual project in production of an advertising campaign.
- 471 (571). Magazine Article Writing.** (2:2:0) S. Home Study also. Prerequisite: ability to typewrite. Staff
Planning and writing non-fiction articles for sale to periodicals. Analysis of magazine markets and criticism of articles written in the course.
- 490 (490). Practices and Problems in Mass Communication.** (3:3:0) S. Home Study also. Burnett, Smith
Comprehensive review of the field of mass communication, including analysis of policies, practices and problems of the mass media as social instruments. Individual writing projects.
- 491 (316, 491, 494). Projects in Communication Practice.** (1-2:Arr.:Arr.) F.S. Su. Staff
Laboratory projects for upper division students in advertising, editing, photography, radio, or television. Maximum of 2 hours' credit in any one field.
- 561 (561, 564). Public Relations.** (3:3:0) F.Su. Butterworth, Smith
Philosophy and practice of public relations in business, governmental, educational and other institutions; study of publics, media, and methods. Case studies of public relations practice.
- 563 (497). Projects in Public Relations.** (1:0:3) F.S.Su. Butterworth
Field projects in public relations practice for selected business, industrial, or non-profit institutions. (Limited to majors and minors.)
- 566 (566). Industrial Magazine Editing and Production.** (2:2:0) S. Prerequisites: Journalism 211, 301. Burnett
Principles of layout and design for house magazines and business publications. Contemporary problems in content and production.
- 574 (674). Teaching Methods in Journalism.** (2:2:0) Su. Prerequisite: Journalism 321 or equivalent. Staff
Teaching methods for journalism in the secondary school and junior

college. Planning and supervising school newspapers. Disseminating school publicity in the public media.

- 576 (676). **School Yearbook and Magazine Production.** (2:2:0) Offered in 1961-62 and alternate years. Staff
Planning and supervising production of school yearbooks and magazines, including copy, illustration, layout, printing, binding, and business management.

Graduate Courses

- 671 (671). **Research Methods in Mass Communications.** (2:2:0) F. Smith
Research techniques in communication fields, including readership, readability, content analysis and audience measurement. Introduction to thesis writing.
- 672 (672). **Mass Communication and Society.** (3:3:0) S. Smith
Concepts of mass communication in contemporary society; critical evaluation of responsibilities and performance of the mass media of press, radio, television, and film.
- 680 (New). **World Communication Channels.** (2:2:0) S. Burnett, Smith
Study of communication media in principal areas of the world. Problems of international communication and barriers to the flow of information between peoples.
- 690 (690). **Seminar in Mass Communication.** (1:1:0) S.Su. Staff
- 691, 692 (691, 692, 693). **Special Studies in Communication.** (1-3:Arr.:Arr.) F.S.Su. Staff
Individual work on approved problems not leading to a thesis. (Projects must be approved before registration.)
- 694 (694). **Readings in Mass Communication.** (1-2:Arr.:Arr.) F.S.Su. Pre-Staff
requisite: consent of instructor.
- 699 (699). **Thesis for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Staff

The following courses also may be taken for credit in Journalism:

Business Management 555. **Problems in Advertising.** (3:3:0)

Speech 241. **Introduction to Radio and Television Broadcasting.** (2:2:3)

Speech 346. **Radio and Television Production Workshop.** (2:1:2)

Speech 449. **Radio and Television Programs and Audiences.** (3:3:0)

Speech 452, 453. **Radio and Television Announcing.** (1:1:0)

Speech 455, 456. **Television Production and Direction Workshop.** (2:1:2)

Professors: Lee (chairman, 326 McKay),
Cummings (emeritus), deJong,
Nibley, Rogers, Watkins.

Associate Professors: V. L. Anderson, Clark, Taylor,
Valentine, Wilkins.

Assistant Professors: Brown, Gibson.

Instructors: C. D. Anderson*, Gubler*, Smithson*.

Languages



The study of a foreign language is a unique educational experience. It is a means by which the student can participate in the inner life of another people and share its culture. Through the study of a foreign language, the student also comes to learn his own language much better. The poet and philosopher Goethe said, "He who knows no other language, knows not his own."

The objectives of the courses in the Department of Languages are:

1. **General:** To teach the student to understand and to speak the language with facility and to develop skill in reading and writing.
To provide a survey of foreign literatures and to acquaint the student with foreign cultures.
2. **Specific:** To prepare students for the teaching profession, government work at home and abroad, international trade, L.D.S. missions in foreign countries, and research leading to advanced degrees.

Languages required for B.Y.U. Degrees. Every degree of bachelor of arts and master of arts granted by the University requires the completion of the equivalent of at least 16 hours of an approved foreign language. The degree of doctor of philosophy to be granted by this University requires reading proficiency in two foreign languages, one of which must be French or German.

Library and Laboratory Facilities. The department has an experienced and competent staff as well as good library facilities. It also has one of the most modern and best equipped language laboratories in the United States. All presently available electronic recording and playback equipment is at the disposal of more than sixty students every hour, permitting a strong emphasis to be placed on acquiring good pronunciation and speaking fluency. The tape library contains some of the best dramatic and poetic works in the principal languages of the world.

Credit for Study in High School. For students who have had the opportunity to study a foreign language in high school, the 16-hour language requirement for the B.A. degree may be proportionately reduced for each unit of high school work completed. Students who have had high school language training may obtain advanced standing after consultation with the department.

Special Examination for Foreign Residence. Students who have had foreign residence may, with the consent of the department, obtain up to 16 hours of special foreign language credit. This may be done in two ways: (1) by successfully completing a more advanced course in the language, or (2) by passing a

series of examinations administered by the department. Foreign students are not permitted to obtain credit in this way for their native language.

Major and Minor Requirements

In French, German, Spanish, Portuguese, Latin, Greek, and Hebrew the department offers programs leading to a departmental major or minor with the bachelor of arts degree. The requirement for a major is 20 hours of upper division credit. The requirement for a minor is 12 hours of upper division credit. The department reserves the right to specify certain courses to be used toward a degree in these foreign languages. Areas that serve as minors include a second foreign language, English, one of the fine arts, history, political science, sociology, etc.

Prospective Graduate Students. Prospective graduate students are reminded that a second, and sometimes a third, language will be required of them in graduate school. It is advisable that work in at least one other language be started before the junior year. Students must follow specific steps in their progress toward a graduate degree. It is their responsibility to obtain these regulations from the department chairman and follow them. Graduate students who have the consent of the instructor may register for certain undergraduate literature courses.

MODERN LANGUAGES

ARABIC

101, 102 (101, 102, 103). First Year Arabic. (5:5:1 ea.) F.S. (G-HA)

Nibley

The modern spoken language. Designed for those who have had no Arabic.

CHINESE

Lower Division Courses

101, 102 (New). First Year Chinese. (4:4:2 ea.) F.S.

Staff

Designed for those who have had no Chinese.

201 (New). Intermediate Chinese Reading and Conversation. (4:4:1) F. Pre-requisite: Chinese 102.

Staff

Upper Division Courses

301 (New). Selected Readings. (4:4:0) S. Prerequisite: Chinese 201, or consent of instructor.

Staff

321, 322 (New). Chinese Composition and Conversation. (3:3:0 ea.) F.S. Staff

FRENCH

The requirement for a major is 20 hours of upper division courses which must be selected from the following: French 321, 322, 441, 442, 511 (or equivalents) and 6 hours from 431, 432, 490, 491.

The requirement for a minor is 12 hours of upper division courses, which must include French 321, 322, 441, 442. 511 is recommended for those who plan to teach.

Lower Division Courses

101, 102 (101, 102, 103). First Year French. (4:4:2 ea.) F.S.Su.

Brown, Clark, Lee, Smithson, Staff

Designed for those who have had no French. Pronunciation, reading, the

fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

- 201 (201, 202, 203). **Intermediate French Reading and Conversation.** (4:4:1 ea.) F.S.Su. Home Study also. Prerequisite: French 102, or three units of French in high school. Brown, Clark, Lee, Staff

Upper Division Courses

- 301 (311, 204). **Selected Readings.** (4:4:0) F.S.Su. Prerequisite: French 201 or consent of instructor. Staff
Extensive readings of elementary and intermediate edited texts.
- 315, 316 (301, 302, 303). **Gospel in French.** (2:2:0) F.S. Prerequisite: sixteen hours of French or consent of instructor. Clark, Lee
Discussions of the gospel message and the reading of the scriptures in French. The purpose of this course is to give the student practice in conversation and to widen his knowledge of the gospel.
- 321, 322 (321, 322, 323). **French Composition and Conversation.** (3:3:0) F.S. Home Study also. Prerequisite: sixteen hours of French or equivalent. Staff
- 431, 432 (431, 432, 433). **Masterpieces of French Literature.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: sixteen hours of French or consent of instructor. Clark, Lee
- 441, 442 (441, 442, 443). **Survey of French Literature and Culture.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: French 301 or consent of instructor. Clark, Lee
General view of the literary periods, movements, and social backgrounds with representative readings.
- 490, 491 (491, 492, 493). **Individual Study in French.** (1-3:0:0) F.S.Su. Staff
Assignments are made to fit the individual needs of advanced students.

Advanced Undergraduate or Graduate Courses

- 511 (511). **Materials and Techniques in Teaching French.** (2:2:1 ea.) F.Su. Prerequisite: French 322 or consent of instructor. Clark, Lee, Staff

Graduate Courses

- 620 (601). **French Composition and Conversation.** (2:2:1) F. Clark, Lee
- 621 (621). **Introduction to Romance Philology.** (2:2:0) F. Clark
- 622 (622). **Old French Morphology and Phonology.** (2:2:0) S. Clark, Lee
- 643 (661). **Introduction to French Civilization.** (2:2:0) F. Clark, Lee
- 660 (631). **Old French Literature.** (2:2:0) S. Clark, Lee
- 665 (633). **French Literature of the Renaissance.** (2:2:0) S. Clark
- 670 (634). **French Literature of the 17th Century.** (2:2:0) F. Lee
- 674 (641). **Moliere.** (2:2:0) F. Clark, Lee
- 675 (635). **French Literature of the 18th Century.** (2:2:0) S. Clark, Lee
- 680 (651). **French Drama of the 19th Century.** (2:2:0) S. Lee
- 681 (653). **French Novel of the 19th Century.** (3:3:0) S. Clark, Lee
- 685 (637). **French Literature of the 20th Century.** (2:2:0) F. Clark, Lee
- 686 (652). **Modern French Drama.** (2:2:0) S. Clark, Lee
- 687 (654). **Modern French Novel.** (3:3:0) F. Clark, Lee

- 690, 691 (691, 692, 693). **Directed Readings in French.** (1-2:0:Arr.) F.S.Su. Staff
 692, 693 (691, 692, 693). **Seminar in Philology.** (1-2:1-3:0) F.S.Su. Staff
 694-698 (691, 692, 693). **Seminar in French Literature.** (1-2:1-3:0) F.S.Su.
 699 (699). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff

GERMAN

The requirement for a major is 20 hours of upper division courses which must include German 321, 322, 431, 432, 441, 442, 511, or equivalents.

The requirement for a minor is 12 hours of upper division courses which must include German 321, 322, 441, 442. 511 is recommended for those who plan to teach

Lower Division Courses

- 101, 102 (101, 102, 103). **First Year German.** (4:4:2 ea.) F.S.Su. (G-HA) Anderson, Rogers, Watkins, Staff
 Designed for those who have not had German. Pronunciation, reading, fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.
 201 (201, 202, 203). **Intermediate German Reading and Conversation.** (4:4:1) F.S.Su. Home Study also. Prerequisite: German 102 or three units of German in high school or consent of instructor. Anderson, Rogers, Watkins
 Conversation, review of grammar, vocabulary building.

Upper Division Courses

- 301 (204, 311). **Selected Readings.** (4:4:0) F.S.Su. Prerequisite: German 201 or consent of instructor. Anderson, Rogers, Watkins, Staff
 Extensive readings of intermediate edited texts.
 315, 316 (301, 302, 303). **Gospel in German.** (2:2:0) F.S. Prerequisite: eight hours of German or consent of instructor. Staff
 Discussion of the gospel message and reading of scripture in German. Purpose is to give the student practice in conversation and to widen his knowledge of the gospel.
 321, 322 (321, 322, 323). **German Composition and Conversation.** (3:3:0) F.S. Home Study also. Prerequisite: sixteen hours of German or equivalent. Anderson, Rogers, Watkins
 385, 386 (307, 308, 309). **Scientific German.** (2:2:0) F.S.Su. Home Study also. Anderson, Staff
 431, 432 (431, 432, 433). **Masterpieces of German Literature.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: sixteen hours of German or consent of instructor. Anderson, Rogers, Watkins
 Intensive study of selected masterpieces of German literature.
 441, 442 (441, 442, 443). **Survey of German Literature and Culture.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: German 301 or consent of instructor. Anderson, Rogers, Watkins
 General view of literary periods, movements, and social background with representative readings.
 490, 491 (491, 492, 493). **Individual Study in German.** (1-3:Arr.:Arr.) F.S. Su. Anderson, Rogers, Watkins
 Assignments are made to fit the individual needs of advanced students.

Advanced Undergraduate or Graduate Courses

- 511 (511). **Materials and Techniques in Teaching German.** (2:2:1) F.S. Pre-requisite: German 322 or consent of instructor. Rogers, Watkins

Graduate Courses

- 600 (661). **Cultural History of Germany.** (2:2:0) S.Su. Watkins
- 620 (601). **German Composition and Conversation.** (2:2:0) S.Su. Watkins
- 622 (666, 667). **Gothic and Old High German.** (5:5:0) F. Watkins
Introduction to comparative Germanic philology through a study of linguistic forms in old Germanic languages, principally Gothic and Old High German.
- 624 (668). **Middle High German.** (3:3:0) S. Watkins
- 643 (658). **German Lyric Poetry.** (2:2:0) F. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Rogers
- 644 (651). **The German Drama.** (2:2:0) S. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Anderson
- 645 (654). **The German Novel.** (2:2:0) F. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Anderson
- 646 (656). **The German Novelle.** (2:2:0) S. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Anderson
- 676 (541). **Lessing.** (2:2:0) F. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Rogers
- 677 (542). **Schiller.** (2:2:0) S. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Rogers
- 678 (543). **Goethe.** (2:2:0) F. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Rogers
- 685 (637). **Contemporary German Literature.** (2:2:0) S. Prerequisite: German 431, 432, 441, 442, or consent of instructor. Anderson, Rogers
- 690, 691 (New). **Directed Readings.** (2:0:Arr.) F.S.Su.
Anderson, Rogers, Watkins
- 692, 693 (691). **Seminar in Philology.** (2:2:0) S.Su. Watkins
- 694-698 (694). **Seminar in Literature.** (2:2:0) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) Staff

ITALIAN

Lower Division Courses

- 101, 102 (101, 102, 103). **First Year Italian.** (4:4:1) F.S. Offered 1959-60 and alternate years. (G-HA) Gibson, Watkins
Special attention to accurate pronunciation for benefit of students of music and art for whom Italian has special interest and value. Grammar and graded reading.
- 201 (201, 203, 205). **Second Year Italian.** (4:4:0) F. Offered 1960-61 and alternate years. Prerequisite: Italian 103 or two units of Italian in high school. Gibson, Watkins

Upper Division Courses

- 301 (202, 204, 206). **Selected Readings.** (4:4:0) S. Offered 1960-61 and al-

ternate years.

Gibson

Extensive reading of intermediate texts.

- 431, 432 (431, 432, 433). **Masterpieces of Italian Literature.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: Italian 301 or consent of instructor. Gibson, Watkins

Extensive and intensive reading from Italian masterpieces.

- 490, 491 (491, 492, 493). **Individual Study in Italian.** (1-3:Arr.:Arr.) F.S. Gibson, Watkins

Assignments made to fit the individual needs of the advanced student.

JAPANESE

Lower Division Courses

- 101, 102 (101, 102, 103). **First Year Japanese.** (4:4:1) F.S. (G-HA) Staff
Constant study of the writing systems. Fundamentals of grammar and the building of a substantial vocabulary. Easy conversation and composition throughout.
- 201 (201, 203). **Second Year Japanese.** (3:3:0) F. Prerequisite: Japanese 102 or consent of instructor. Staff
Reading and conversation.

Upper Division Courses

- 301 (202, 204, 206). **Selected Readings.** (4:4:0) S. Prerequisite: Japanese 201 or equivalent. Staff
- 490, 491 (491, 492, 493). **Individual Study in Japanese.** (1-3:Arr.:Arr.) F. S. Staff
Su.
Assignments made to fit the individual needs of advanced students.

NORWEGIAN

Lower Division Courses

- 101, 102 (New). **First Year Norwegian.** (4:4:2 ea.) F.S. (G-HA) Staff
Designed for those who have had no Norwegian.

PORTUGUESE

The requirement for a major is 20 hours of upper division courses which must include the following: Portuguese 321, 322, 431, 432, 490, 491 (or equivalents).

The requirement for a minor is 12 hours of upper division courses, which must include Portuguese 321, 322, 431, 432.

Lower Division Courses

- 101, 102 (101, 102, 103). **First Year Portuguese.** (4:4:1) F.S. (G-HA) de Jong
A beginning course. Pronunciation, conversation, reading, and fundamentals of grammar. Special attention to Portuguese as the language of Brazil.
- 201 (201, 203, 205). **Second Year Portuguese.** (4:4:0) F. Home Study also. Prerequisite: Portuguese 102 or three units of Portuguese in high school. Staff

Upper Division Courses

- 301 (202, 204, 206). **Selected Readings.** (4:4:0) S. Prerequisite: Portuguese 201. Staff
Extensive readings of intermediate edited texts.

- 321, 322 (321, 322, 323). Portuguese Composition and Conversation. (3:3:0)
F.S. Prerequisites: Portuguese 301; 16 hours of Portuguese or the equivalent.
de Jong
- 431, 432 (431, 432, 433). Masterpieces of Brazilian and Portuguese Literature.
(3:3:0) F.S. (G-HA) Prerequisite: Portuguese 301 or consent of instructor.
de Jong
- 490, 491 (491, 492, 493). Individual Study in Portuguese. (1-3:Arr.:Arr.) F.
S.Su.
Assignments are made to fit the individual needs of advanced students.

Graduate Courses

- 620, 621 (601, 602, 603). Portuguese Composition and Conversation. (3:3:0)
F.S. de Jong
- 641 (631, 632). Introduction to Portuguese Literature. (3:3:0) F.S. (G-HA)
de Jong
- 642 (633). Contemporary Portuguese Literature. (3:3:0) S. de Jong
- 650 (655, 656, 657). Introduction to Brazilian Literature. (3:3:0) F.S. de Jong
- 651 (657). Contemporary Brazilian Literature. (3:3:0) S. de Jong
- 690 (696). Directed Readings. (1-2:0:Arr.) F.S.Su. Staff
Individual study on the graduate level.
- 692 (694). Seminar in Philology. (2:2:0) F.S. de Jong
- 694 (696). Seminar in Literature. (1-2:1-2:0) F.S. Staff
- 699 (699). Thesis for Master's Degree. (1-4:1-4:0) F.S. Staff

RUSSIAN

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Russian. (4:4:1) F.S.Su. (G-HA)
Gubler, Staff
Designed for those who have had no Russian. Pronunciation, reading, fundamentals of grammar, and building of a substantial vocabulary.
- 201 (201, 203, 205). Second Year Russian. (4:4:0) F. Home Study also. Pre-
requisite: Russian 102. Gubler, Staff
Readings in Russian literature.

Upper Division Courses

- 301 (202, 204, 206). Selected Readings. (4:4:0) S. Prerequisite: Russian 201
or consent of instructor. Gubler, Staff
Extensive readings of intermediate edited texts.
- 321, 322 (321, 322, 323). Russian Composition and Conversation. (3:3:0) F.S.
Prerequisite: sixteen hours of Russian or equivalent. Gubler, Staff
- 431, 432 (431, 432, 433). Masterpieces of Russian Literature. (3:3:0) F.S.
(G-HA) Prerequisite: Russian 301 or consent of instructor. Gubler, Staff
- 490, 491 (491, 492, 493). Individual Study in Russian. (1-3:Arr.:Arr.) F.S.Su.
Gubler, Staff
Assignments are made to fit the individual needs of advanced students.

SPANISH

The requirement for a major is 18 hours of upper division courses which

must include Spanish 321, 322, 441, 442, 451, 452. 511 is recommended for those who plan to teach.

The requirement for a minor is 12 hours of upper division courses which must include 6 hours from the following group: Spanish 321, 322, 441, 442, 451, 452. 511 is recommended for those who plan to teach.

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Spanish.** (4:4:2) F.S.Su. 101: Home Study also. (G-HA) Gibson, Taylor, Valentine, Wilkins, Staff
Designed for those who have not had Spanish. Pronunciation, reading, and the fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.
- 201 (201, 202, 204). Intermediate Spanish Reading and Conversation.** (4:4:1) F.S.Su. Home Study also. Prerequisite: Spanish 102 or three units of Spanish in high school or consent of instructor. Taylor, Valentine, Wilkins, Staff

Upper Division Courses

- 301 (203, 311). Selected Readings.** (4:4:0) F.S.Su. Home Study also. Pre-requisite: Spanish 201 or consent of instructor. Staff
Extensive reading of intermediate edited texts.
- 315, 316 (301, 302, 303). Gospel in Spanish.** (2:2:0) F.S. Valentine
Discussions of the gospel message and the reading of the scriptures in Spanish. The aim of this course is to give the student practice in conversation and to widen his knowledge of the gospel.
- 321, 322 (321, 322, 323). Spanish Composition and Conversation.** (3:3:0) F. S.Su. Home Study also. Prerequisite: Spanish 301 or equivalent. Taylor, Valentine, Wilkins
- 431, 432 (431, 432, 433). Masterpieces of Spanish and Spanish-American Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA) Prerequisite: sixteen hours of Spanish or consent of instructor. Taylor, Valentine, Wilkins
- 441, 442 (441, 442, 443). Survey of Spanish Literature and Culture.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: Spanish 301 or consent of instructor. Taylor
- 451, 452 (451, 452, 453). Survey of Spanish-American Literature and Culture.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: Spanish 301 or consent of instructor. Wilkins
- 490, 491 (491, 492, 493). Individual Study in Spanish.** (1-3:Arr.:Arr.) F.S.Su. Staff
Assignments are made to fit the individual needs of advanced students.

Advanced Undergraduate or Graduate Courses

- 511 (511). Materials and Techniques in Teaching Spanish.** (2:2:0) F.Su. Pre-requisite: Spanish 322 or consent of instructor. Taylor, Valentine, Wilkins

Graduate Courses

- 620 (601). Spanish Composition and Conversation.** (2:2:0) F. Staff
- 622 (651). History of the Spanish Language.** (2:2:0) S. Gibson
- 652 (681). Spanish American Short Story.** (2:2:0) S. Valentine, Wilkins
- 653 (667). Drama in Spanish America.** (2:2:0) S. Valentine, Wilkins
- 654, 655 (672, 673). Spanish American Novel.** (3:3:0) F.S. Valentine, Wilkins

656	(655).	The Modernista Movement.	(2:2:0) S.	Valentine, Wilkins
657	(633).	Hispanic American Essay.	(2:2:0) F.	Valentine, Wilkins
660	(621).	Spanish Medieval Literature.	(2:2:0) S.	Taylor
670, 671	(665, 675).	Golden Age Literature.	(3:3:0) F.S.	Gibson, Taylor
680, 681	(622, 671).	19th Century Spanish Literature.	(3:3:0) F.S.	Gibson, Taylor
685, 686	(623, 661).	20th Century Literature.	(2:2:0) F.S.	Taylor
690, 691	(New).	Directed Readings.	(2:0:Arr.) F.S.	Staff
Individual study on a graduate level.				
692	(694).	Seminar in Philology.	(2:2:0) F.S.Su.	Staff
694-698	(694).	Seminar in Literature.	(2:2:0) F.S.Su.	Staff
699	(699).	Thesis for Master's Degree.	(Arr.) F.S.Su.	Staff

CLASSICAL LANGUAGES

LATIN

The requirement for a major is 20 hours of upper division courses which must include Latin 441, 442, 511; and 12 hours of electives to be selected from 201, 301, 490, 491, 651, 667, and 668.

The requirement for a minor is 12 hours of upper division courses including Latin 441, 442, 511, and 4 hours of electives from 301, 490, 491, 651, 667, and 668.

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Latin. (4:4:0) F.S.Su. (G-HA) Clark
Designed for those who have not had Latin. Mastery of pronunciation, declensions, and conjugations. Correlation of Latin originals with English derivatives. Graded reading. Characteristics of Roman civilization.
- 201 (201, 203, 205). Second Year Latin. (4:4:0) F.Su. Home Study also. Pre-requisite: Latin 102 or three units of Latin in high school. Clark
Readings from Caesar, Livy, etc., with a review and continuation of grammar.

Upper Division Courses

- 301 (202, 204, 206). Selected Readings. (4:4:0) S.Su. Home Study also. Pre-requisite: Latin 201. Clark
Extensive reading of intermediate edited texts.
- 315 (340). Pre-Legal Latin. (2:2:0) F. Prerequisite: consent of instructor. Clark
Recommended for pre-legal students.
- 316 (341, 342). Pre-Medical Latin and Greek. (3:2:0) S. Prerequisite: consent of instructor. Clark
Recommended for pre-medical students.
- 441, 442 (441, 442, 443). Survey of Latin Literature and Culture. (3:3:0) F. S. (G-HA) Clark
- 490, 491 (491, 492, 493). Individual Study. (1-3:Arr.:Arr.) F.S.Su. Clark

Graduate Courses

- 661, 662 (651, 652). Readings in Vulgar Latin. (2:2:0) F.S. Clark

- 667, 668 (667, 668, 669). Cicero, Virgil; Latin Style and Composition. (3:3:0) F.S. Clark
- 677, 678 (677, 678, 679). Horace; the Latin Poets; the Latin Dramatists. (3:3:0) F.S. Clark
- 681, 682 (681, 682, 683). The Latin Fathers. (3:3:0) F.S. Prerequisite: consent of instructor. Nibley
- 690, 691 (New). Directed Readings. (1-2:Arr.:Arr.) F.S.Su. Clark
Individual study on a graduate level.
- 692, 693 (New). Seminar in Philology. (2:2:0) F.S. Clark
- 694-698 (New). Seminar in Literature. (2:2:0) F.S. Clark
- 699 (699). Thesis for Master's Degree. (Arr.) F.S.Su. Staff

GREEK

For major and minor requirements consult the department chairman.

Lower Division Courses

- 101, 102 (101, 102, 103). Elementary Greek. (4:4:0) F.S. (G-HA) Nibley

Graduate Courses

- 631, 632 (664, 665, 666). Selected Greek Masterpieces. (3:3:0) F.S. Nibley
- 667, 668 (667, 668, 669). The Greek New Testament. (3:3:0) F.S. Nibley
- 677, 678 (677, 678, 679). Greek Prose Writers. (3:3:0) F.S. Nibley
Plato: Apology, Crito, Timaeus. Attic orators: Lysias, Demosthenes, Isocrates. Greek historians: Arrian's Alexander, Asiatic Legations.
- 690, 691 (671, 672, 673). Individual Study in Greek. (2-3:Arr.:Arr.) F.S.Su. Nibley
- 699 (699). Thesis for Master's Degree. (Arr.) F.S.Su. Nibley

SEMITICS

Hebrew, Arabic, Aramaic, Akkadian, Egyptian, Syriac, Ugaritic

For Semitic languages other than Arabic and Modern Hebrew see College of Religious Instruction, Biblical Languages. The courses in Semitic languages carry credit in religion and fulfill the language requirements for the B.A. degree.

Lower Division Course

- 101, 102 (New). First Year Hebrew. (4:4:2) F.S. (G-HA) Rasmussen
A beginning course in modern Hebrew as spoken in Israel today. Vocabulary based on Biblical Hebrew provides a foundation for those interested in using the living language as well as those who will later specialize in Biblical Hebrew.

Graduate Courses

See College of Religious Instruction for courses in Hebrew, Aramaic, Syriac, Akkadian, and Egyptian.

LINGUISTICS

Lower Division Course

- 125 (160). Practical Phonetics. (2:2:0) F.S. de Jong
Elementary principles of speech mechanics in their relation to correct diction.

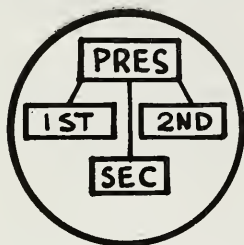
Upper Division Course

- 325 (New). Introduction to Linguistics.** (2:2:0) F.S.Su. Blair
 An introduction to linguistics which includes an introduction to the scientific study of language for students in foreign languages, English and anthropology. Includes the nature and description of language; its sounds and grammar; the historical and comparative study of language.
- 360 (360). Advanced Phonetics.** (2:2:0) S. de Jong

Graduate Course

- 626 (601). Introduction to Linguistics.** (2:2:0) S. Staff

L.D.S. Theology, Church Organization and Administration



Professors: Done (chairman, 243 S), Belnap.

Associate Professors: Ludlow, Riddle.

Assistant Professors: Bankhead, Barrett, Doxey, Mad-
sen, Pearson, Turner.

Instructor: Bennett.

Courses in the Department of L.D.S. Theology, Church Organization and Administration are offered to help the student meet the religion requirements of the University. An undergraduate major or minor is **not** offered in this department.

THEOLOGY

Lower Division Courses

- 131, 132 (104, 105, 106). Fundamentals of the Gospel.** (2:2:0 ea.) F.S.Su.
Home Study also. (G-R) Staff

An examination of the great apostasy and the restoration of the gospel, and a consideration of the basic principles, doctrines, and ordinances of the Church of Jesus Christ of Latter-day Saints.

- 133, 134 (101, 102, 103). Introduction to the Gospel.** (2:2:0 ea.) F.S. (G-R)
Staff

An examination of the basic teachings of the Church of Jesus Christ of Latter-day Saints for non-L.D.S. students.

Upper Division Courses

- 331, 332 (301, 302, 303). Analysis of L.D.S. Teachings.** (2:2:0 ea.) F.S.Su.
Home Study also. (G-R) Done, Doxey, Turner

Distinctive doctrines and principles of the restored gospel of Jesus Christ. Recommended for upper division students who have not had 131, 132.

- 438 (323). Your Religious Problems.** (2:2:0) F.S.Su. (G-R) Belnap
Consideration of problems pertaining to the individual student.

Advanced Undergraduate or Graduate Course

- 535 (325). Scientists Look at Religion.** (1:1:0) F.S. Staff
Consideration of certain concepts of religion in the light of modern science.

CHURCH ORGANIZATION AND ADMINISTRATION

Classes in missionary methods are provided primarily for students who look

forward to missionary service in the stakes and missions of the Church. Students who take 161 cannot enroll for credit in 162 and 163. Students receiving credit in 162 and 163 cannot enroll for credit in 161.

Lower Division Courses

- 161 (131, 132). Training for Prospective Missionaries.** (4:4:0) F.S.Su. (G-R) Bankhead, Ludlow, Ricks
Study of the vital doctrinal themes and techniques used in the mission field and practice in the use of the present missionary "plan."
- 162, 163 (141, 142, 143). Missionary Approach to the Gospel.** (2:2:0 ea.) F. S.Su. Home Study also. (G-R) Ludlow, Pearson, Ricks
Open to all students. Intended for those who cannot elect the more intensive missionary training course (161). Concerned with procedures used in explaining the restored gospel of Jesus Christ to friends and investigators.

Upper Division Courses

- 361 (317). Genealogy.** (2:2:0) F.S. Home Study also. (G-R) Bennett
An elementary course in the purpose and techniques of genealogical research and an investigation of the rich sources now available.
- 362 (318). Genealogy.** (2:2:0) F.S. Home Study also. (G-R) Prerequisite: Church Administration 361 or consent of instructor. Bennett
Wise practice in analyzing and obtaining solutions of actual pedigree problems, and determining when a connection is really proved.
- 460 (301, 311). Priesthood, Church Government, and Welfare.** (2:2:0) F.S.Su. (G-R) Ballif, H. G. Clark, Doxey
Powers, authority, and functions of the priesthood and its role in Church government, and the historical development, economic, and spiritual aspects of the L.D.S. Welfare Program.

Library Science

Assistant Professors: Knight (chairman, 185 Library), Rich.

Instructors: Berry, Flake, Hansen, Jenson, Nash*, Storrs, Swensen, Thorne.



The library science program is organized to fill the needs of school and public librarians, teachers, and students who wish to become familiar with library use, and those who wish to do advanced study in a professional library school. All of the courses listed will be taught one or more times during a two-year period, including summer sessions.

Candidates for a librarian's certificate in Utah must have courses 355, 363, and 366 in addition to the elementary or secondary certificate.

A minor (teaching minor) requires 14 to 16 hours of selected courses including 355, 363, 366, 370, and 585.

Lower Division Course

- 111 (111). Use of Books and Libraries.** (1:2:0 for $\frac{1}{2}$ term) F.S. Staff
Efficient use of library materials; card catalog; use of general reference books (bibliographies, dictionaries, encyclopedias, and indexes); and making of bibliographies.

Upper Division Courses

- 355 (355). Classification and Cataloging.** (3:3:0) S.Su. Prerequisite: ability to typewrite. Jenson
Theory and principles of classification and cataloging of books in libraries. Practical problems and laboratory practice.
- 363 (363). Library Organization and Administration.** (2:2:0) F.Su. Home Study also. Knight
General organization and administration in all types of libraries. Emphasis on physical facilities, objectives, and management.
- 366 (366). Book Selection.** (2:2:0) S.Su. Knight
Principles, criteria, and practice in selection of books and other library materials.
- 370 (370). Introduction to Bibliography.** (2:2:0) F.S.Su. Knight, Hansen
Intensive study of the content and use of reference books: encyclopedias, dictionaries, indexes, yearbooks, bibliographies, atlases, and biographies. Bibliographic form stressed.

Advanced Undergraduate or Graduate Courses

- 569 (569). **Reading Guidance for Young People.** (2:2:0) F.Su. Staff
 A critical study of the reading interests and needs of young people. Problems of the reluctant and the avid reader. Extensive examination and reading of books.
- 571 (571). **Bibliography of the Sciences.** (2:2:0) Su. Staff
- 572 (572). **Bibliography of the Humanities.** (2:2:0) S. Knight
- 573 (573). **Bibliography of the Social Sciences.** (2:2:0) S. Knight
- 585 (590). **History of Books and Libraries.** (2:2:0) F.Su. Flake

Graduate Courses

- 650 (650). **Current Problems in the Technical Services.** (2:2:0) Su. Rich
- 695, 696 (655). **Readings and Research in Library Science.** (1-2:Arr.:Arr.) F.S.Su. Staff

These courses also count in Library Science:

Instruction 340 (340). Children's Literature. (2:2:0)

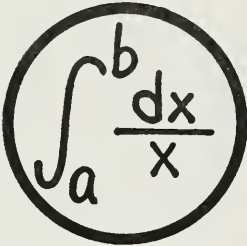
Instruction 406 (406). Teaching Materials Laboratory (Audio-Visual Aids). (2:2:1)

Instruction 605 (605). Development of Instructional Materials. (2:2:1)

Speech 527 (527). Storytelling. (2:2:0)

Mathematics

Associate Professors: Fletcher (chairman, 289 ESC), Robinson.
Assistant Professors: Fearnley, Karst, Olpin.
Instructors: Haupt*, Hillam*, Hone, Wickes.



All entering freshmen intending to take mathematics must take the mathematics placement test before or at the time of registration. Students will be placed in Math 101, 111, or 112, depending on the results of this test.

A high school graduate planning to major in the physical or engineering sciences should have had 1½ units of high school algebra and one unit of plane geometry. Trigonometry and solid geometry are also recommended. With these, he should be able to qualify for enrollment in Math 111 or 112. Those who have not had two courses of high school algebra or who may be weak in mathematics should take Math 101 in summer school or by correspondence before entering B.Y.U. Those without plane geometry should take this course by correspondence before entering.

Departmental majors are required to complete with grade "C" or better, a minimum of 18 upper division hours of mathematics including Math 541 and 542. In addition, all majors are required to pass a written comprehensive examination which is given the final semester of the senior year.

Math 51, 101, and 111 should not be counted toward filling a mathematics minor.

The requirements for a teaching certificate in mathematics are given in the College of Education section of this catalog.

Suggested Sequence of Courses for Math Majors

Freshman Year			Sophomore Year		
	F	S		F	S
*Math 112, 213	5	5	Math 214	5	
English	3	3	Math 316		3
Chemistry 105, 106	4	4	Math 435		2
Physical Education	½	½	Physics 211, 213	5	5
Health	2		Social Science	3	3
History 170 or 180		3	Biological Science	3	3
Religion	2	2	Physical Education	½	½
			Religion	2	2
	16½	17½		18½	18½

Junior Year			Senior Year		
	F	S		F	S
Math 311, 312	3	3	Math 541, 542	3	3
Math 371, 372	3	3	Math 551, 552 or		
German	5	5	521, 522	3	3
Physics	3	3	German	3	3
Elective	2	2	Literature	5	
Religion	2	2	Elective		6
			Religion	2	2
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	18	18		16	17

*An entering freshman who has not had the equivalent of Math 111 should complete this during the first year. This will mean that he has 5 hours less of electives in his college program.

Remedial Course

- 51 (51). **Plane Geometry.** (0:3:0) F.S. Staff
 Equivalent to high school plane geometry. Required of students major-
 in the College of Physical and Engineering Sciences. This is also offered
 by correspondence prior to entrance as a freshman.

Lower Division Courses

- 101 (101). **Intermediate Algebra.** (3:4:0) F.S.Su. Staff
 Equivalent to the second year of high school algebra. Those with no
 algebra in high school should take a correspondence course in first year
 algebra to make up the deficiency. Those with two years of high school
 algebra who place high on the placement test may take Math 111 without
 taking Math 101 first.
- 111 (111, 112). **College Algebra and Trigonometry.** (5:5:0) F.S.Su. Prerequi-
 site: Math 101. Staff
 If a student has not completed Math 101, he can enroll in this course only
 by passing a placement test prior to registration.
- 112 (231). **Analytical Geometry and Calculus.** (5:5:0) F.S. Prerequisite: Math
 111. Staff
 Analytical geometry for half a semester followed by a formal introduc-
 tion to differential and integral calculus.
- 121, 122 (105, 106, 107). **Technical Mathematics.** (4:5:0 ea.) F.S. Prerequisite:
 Math 101 or equivalent. Staff
 A terminal course for those in the technical institute. College algebra,
 trigonometry, analytical geometry, and an introduction to calculus. Em-
 phasis on problems and practical application.
- 213 (232, 233). **Calculus.** (5:5:0) F.S.Su. Prerequisite: Math 112. Staff
 Differential and integral calculus.
- 214 (233, 234). **Calculus and Differential Equations.** (5:5:0) F.S.Su. Prerequi-
 site: Math 213. Staff
 Applications of the calculus for half a semester followed by elementary
 differential equations.

Upper Division Courses

- 300 (307). **History of Mathematics.** (3:3:0) S. Prerequisite: Math 112. Staff
 A study of the development of mathematics with emphasis on the under-
 lying principles and motivations. Primarily for prospective teachers.

- 301 (357, 377). Foundations of Mathematics.** (3:3:0) F. Prerequisite: Math 111. Staff
Sets, logic, basic number systems. Primarily for prospective teachers.
- 311 (311, 313). Digital Computers.** (3:1:6) F. Prerequisite: Math 112. Dean
Computer logic, flow diagram, coding techniques, solution of problems using a modern digital computer as a laboratory machine.
- 312 (311, 312). Numerical Analysis.** (3:3:0) S. Prerequisite: Math 214. Dean
Numerical solutions of algebraic, difference, differential, and integral equations.
- 315 (316, 317, 318). Applied Mathematical Analysis.** (3:3:0) F.S. Prerequisite: Math 214. Staff
Matrix algebra, vector analysis, numerical analysis, statistics.
- 316 (316, 317, 318). Applied Mathematical Analysis.** (3:3:0) F.S. Prerequisite: Math 214. Staff
LaPlace transforms, complex variables, partial differential equations, Bessel's functions.
- 371 (371, 372). Introduction to Modern Algebra.** (3:3:0) F. Prerequisite: Math 112. Robinson
An introduction to modern abstract algebra, including the study of groups, rings, and fields.
- 372 (372, 373). Introduction to Linear Algebra.** (3:3:0) S. Prerequisite: Math 112. Robinson
An introduction to linear algebra, including the study of linear spaces, linear transformations, and matrices.
- 387 (387). Theory of Numbers.** (3:3:0) F. Prerequisite: Math 111. Karst
Foundations of number theory, congruences, residues, reciprocity law, Diophantine equations.
- 435 (334, 335). Intermediate Differential Equations.** (2:2:0) S. Prerequisite: Math 214. Staff
Special types, series solutions, hypergeometric functions.
- 491, 492 (491, 492, 493). Seminar.** (1:1:0 ea.) F.S. Prerequisite: Math 214. Staff

Advanced Undergraduate or Graduate Courses

- 521, 522 (521, 522, 523). Statistics.** (3:3:0 ea.) F. Prerequisites of Math 522: Math 214, 315, or 521. Staff
Basic probability, distribution functions, estimators, tests of significance.
- 541, 542 (541, 542, 543). Advanced Calculus.** (3:3:0 ea.) F.S. Prerequisite: Math 214. Staff
- 551, 552 (551, 552, 553). Topology.** (3:3:0 ea.) F.S. Prerequisite: Math 214. Fearnley

Graduate Courses

- 617, 618 (617, 618, 619). Mathematical Physics.** (3:3:0 ea.) F.S. Prerequisite: Math 316; recommended prerequisite: Math 542. Fletcher
- 631, 632 (631, 632, 633). Complex Analysis.** (3:3:0 ea.) Not given this year. Prerequisite: Math 316; recommended prerequisite: Math 542. Staff
- 641, 642 (641, 642, 643). Functions of a Real Variable.** (3:3:0 ea.) F.S. Prerequisite: Math 214; recommended prerequisite: Math 542. Staff

- 647, 648 (647, 648, 649). Partial Differential Equations.** (3:3:0 ea.) F.S. Not given this year. Prerequisite: Math 214; recommended prerequisite: Math 542. Fletcher
- 671, 672 (671, 672, 673). Modern Algebra.** (3:3:0 ea.) F.S. Not given this year. Prerequisite: Math 371. Robinson
- 681, 682 (681, 682, 683). Linear Algebra.** (3:3:0 ea.) F.S. Prerequisite: Math 372. Robinson
- 695 (695). Readings in Mathematics.** (1-2:1-2:0) F.S. Staff
- 699 (699). Thesis for Master's Degree.** (Arr.) F.S. Staff

Mechanical Engineering Science

Professor: Baxter.
Associate Professor: Simonsen (chairman, 274 ELB).
Assistant Professors: Beebe, Cannon, Wille.
Instructor: Gardner.



This department offers a five-year program leading to the degree of Bachelor of Engineering Science in Mechanical Engineering. The student completing the prescribed course of study will receive a broad and comprehensive training in mechanical engineering in addition to the general and religious education given to all undergraduate students at Brigham Young University.

Required High School Preparation

A student enrolling in the Department of Mechanical Engineering Science will find it necessary, in order to complete the required curricula without loss of time, to have successfully completed the following high school courses or their equivalents:

- 3 units of English.
- 3 units of Mathematics which include at least one unit of plane geometry and one and one half units of algebra with additional course work in algebra, trigonometry, or solid geometry strongly recommended.
- 1 unit of physical science which should be either chemistry or physics.

A student who has not met these requirements may make up his deficiencies by enrolling in special courses designed for this purpose, or by successfully passing an examination designed to show that he has sufficient understanding of the subject matter to carry his regular college courses satisfactorily. He should recognize that the time required to complete his college program will probably be extended by the length of time necessary to make up these deficiencies. A student who has not completed these recommended courses by the time he graduates from high school may complete them through home study courses or other courses offered by the Brigham Young University Adult Education and Extension Services. Information about these courses will be sent upon request.

Upon enrollment, a student will be given a placement test. If his high school training is found deficient, he may be required to take extra remedial work. On the other hand, if this test shows unusual proficiency he may be excused from taking some of the more elementary college mathematics.

Requirements for Major

To obtain a degree the student must complete the sequence of courses described below, and must work at least one summer during his last three years of residence in an industry related to the field. The student should consult with the department chairman in advance regarding his summer employment. The following abbreviations are used in the description: Ch.E. for chemical engineering; C.E.

for civil engineering; E.E. for electrical engineering; and M.E. for mechanical engineering.

Grade Requirements

A student must have received an average grade of "C" or better in calculus and physics before being admitted as a regular third-year student in the department. A student who has not obtained this average may petition for special consideration. If he is admitted, it will be on a probationary basis subject to periodic review. If his work subsequently proves unsatisfactory, he will be dropped from the department. A list of accepted students will be maintained in the department office. The student should check on his status.

In addition to the regular University academic requirement, a grade of "C" or higher is required in all prescribed courses taken after being admitted as a third year student. If a grade lower than "C" is received in any required course, the student must repeat the course unless he petitions the department faculty and is excused. A "D" grade in a course which is a prerequisite for another course may be considered to fill the prerequisite requirement so that the student may continue in a course sequence. This in no way rescinds the restriction explained above regarding the removal of a grade lower than "C." Deviations from this rule may be made by the department faculty, upon petition, when deviations appear justified.

General Education Group Requirements

Engineering science students are subject to all of the general education requirements listed elsewhere in this catalog, with the following exceptions:

- (1) They may take the required course in health education any time during the first or second year. One credit of this should always be cross-referenced with the religion requirements.
- (2) When necessary, the biological science requirement may be reduced to four semester-hours instead of the six semester-hours specified. All of these hours may be obtained in a single course if desired.
- (3) Maximum advantage should be taken of the cross-referencing of religion with other courses.

Engineering students may register for 18 hours exclusive of physical education and forum in any one semester without obtaining special permission.

Normal Sequence of Courses for Majors

First Year	F	S	Third Year	F	S
*Mathematics 111, 112 ..	5	5	Math 315, 316	3	3
Chemistry 105, 106	4	4	M.E. 321, 322	3	3
English	3	3	C.E. 303, 304	3	3
C.E. 101, 102	2	2	Ch.E. 378		3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	E.E. 301, 302	4	4
M.E. 100	1		M.E. 331, 361	2	2
Health 130		2	Religion	3	
Religion	2	2			
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	17½	18½		18	18
Second Year	F	S	Fourth Year	F	S
Math 213, 214	5	5	M.E. 411, 412	4	3
Physics 211, 213	4	4	M.E. 431, 432	4	5
Physics 212, 214	1	1	M.E. 461	2	
C.E. 203, 301	2	3	M.E. 441		3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	M.E. 433		3
Groups and religion	5	4	M.E. 422	2	
	<hr/>	<hr/>	C.E. 401	2	
	17½	17½	Religion and groups	4	3
				<hr/>	<hr/>
				18	17

Fifth Year	F	S	Group electives	6	4
M.E. 535	3		**Restricted electives	6	9
M.E. 590	1				
M.E. 591		1		16	17
Business Management ...		3			

*Students with an insufficient mathematics and science background should plan on spending the preceding summer in residence to take Math 101 and Chem 100. See prerequisites for Math 111 and Chem 105.

**The restricted electives are to be chosen from the electives offered by the Mechanical Engineering Science Department or, by petition, from other subjects offered in other departments.

Lower Division Course

- 100 (100). **Engineering Orientation.** (1:1:0) F.S. Staff
Introduction to the fields and profession of engineering. Required of all freshman engineering students.

Upper Division Courses

- 310 (410). **Elements of Fluid Mechanics.** (3:3:0) F.S. Prerequisites: Mathematics 214; Civil Engineering 302; Mechanical Engineering 320. Staff
A survey course in fluid mechanics for electrical engineers.
- 320 (327). **Elements of Thermodynamics.** (3:3:0) F.S. Prerequisites: Mathematics 232; Physics 213. Staff
First and second laws; properties of systems; thermodynamics of gases and vapors; applications to thermodynamic cycles. Designed for students not majoring in mechanical engineering.
- 321, 322 (320, 321, 322). **Thermodynamics.** (3:3:0) F.S. Prerequisites: Mathematics 214; Physics 213. Staff
First law and applications, thermodynamic systems, properties of gases, liquids, and vapors. Second law and applications, entropy; properties of gaseous mixtures, fluid flow; gas and vapor cycles and applications to machinery; refrigeration; compression of gases; air-water vapor mixtures.
- 331 (331). **Manufacturing Processes.** (2:1:3) F. Staff
A survey of general manufacturing processes, including smelting, refining, casting, cutting, machining, welding, and joining of engineering materials.
- 361 (360). **Thermodynamics Laboratory.** (2:1:3) S. Prerequisite: completion of or concurrent registration in Mechanical Engineering 321. Staff
Measurements of physical properties and quantities as they apply to mechanical engineering; special emphasis is given to primary measurements and instrumentation.
- 412 (410). **Fluid Mechanics I.** (4:3:3) F. Prerequisites: Mathematics 214; Civil Engineering 304; Mechanical Engineering 320 or 321. Staff
Physical properties of fluids; fluid statics; viscous flow; dimensional analysis; incompressible flow; compressible flow; fluid meters; lift and drag; dynamic similarity; momentum; potential theory; fluid machinery.
- 413 (411). **Fluid Mechanics II.** (3:3:0) S. Prerequisites: Math 316, M.E. 411. Staff
Compressible flow; shock affects; Fanno and Rayleigh lines; generalized one dimensional flow.
- 422 (522). **Combustion.** (2:2:0) S. Prerequisite: Mechanical Engineering 321. Staff
Properties of fuels; characteristics of air-fuel mixtures; combustion characteristics.

- 431, 432 (430, 431, 432). Machine Design I and II.** (4:2:6) F. (5:3:6) S. Prerequisites: Civil Engineering 303, 304. Staff
Velocities and accelerations in machine parts; rolling contact; cams, gearing, flexible connectors, theory and design of machine elements; proportioning of machine parts according to the laws of mechanics and engineering materials.
- 433 (New). Advanced Mechanics of Materials.** (3:3:0) F. Prerequisites: Civil Engineering 303, 401. Staff
Concepts of dynamic failure mechanisms in engineering materials. The origin and significance of residual stresses resulting from manufacturing processes. Relations between residual stresses and fatigue failure phenomena. Design of high strength, light weight structures which are subjected to dynamic loading conditions.
- 441 (441). Heat Transfer.** (3:3:0) S. Prerequisites: Mechanical Engineering 321, 410; Mathematics 316. Staff
Fundamental principles of heat transfer by conduction, convention, and radiation.
- 461 (460, 461). Heat Power Laboratory.** (2:1:3) F. Prerequisites: Mechanical Engineering 321, 361. Staff
Engineering analysis applied to thermodynamic cycles and processes. Analytical prediction of performance and comparison with experimental results.
- 471 (571). Refrigeration.** (2:2:0) Arr. Prerequisite: Mechanical Engineering 321. Staff
Cycles and analysis; selection of systems and component parts; estimation of loads.
- 472 (572). Heating, Ventilating, and Air Conditioning*.** (2:2:0) Arr. Prerequisite: Mechanical Engineering 321. Staff
Heating and cooling for comfort. Design of warm air, hot water, and steam heating systems for residence and commercial buildings.

Advanced Undergraduate or Graduate Courses

- 521 (520). Advanced Thermodynamics*.** (3:3:0) Arr. Prerequisites: Mechanical Engineering 321; Mathematics 317. Staff
Extended treatment of the fundamentals of thermodynamics including transient conditions, equilibrium, combustion.
- 531 (530). Principles of Automatic Control*.** (3:3:0) Arr. Prerequisites: Mechanical Engineering 410; Electrical Engineering 302; Mathematics 316. Staff
Transfer functions applied to mechanical, hydraulic, pneumatic, and electrical components, and their combination. Block diagrams, Nyquist and Routh Criteria, Bode's and Root Locus Plots, Integral and error rate compensation. Non-linear systems.
- 532 (531). Special Topics in Machine Design*.** (2:2:0) Arr. Staff
Selected topics in the behavior of engineering materials and advanced mechanics of materials as applied to the design of machine members.
- 533 (New). Stress Analysis in Machine Components.** (3:3:0) Arr. Prerequisites: Civil Engineering 303; Mathematics 316. Staff
Statically indeterminate structures, columns, tension and shear fields, shell analysis, curved beams and rings, buckling of columns and compression panels, torsion analysis of irregular shapes, and combined loads and stresses. Particular emphasis is given to aircraft and missile flight vehicles and ground handling equipment.
- 535 (535). Mechanical Vibrations.** (3:3:0) F. Prerequisites: Mathematics 316;

- Civil Engineering 302. Staff
 Fundamentals of simple vibrating systems with applications.
- 541 (541). **Advanced Heat Transmission***. (3:3:0) Arr. Prerequisite: Mechanical Engineering 441. Staff
 Extension of Mechanical Engineering 441 to include numerical and approximate methods of solution, transient problems, and solution of problems by analogy methods.
 A study of the thermodynamic cycles, systems, and processes involved in cooling.
- 581 (581). **Internal Combustion Engines***. (3:2:3) Arr. Prerequisite: Mechanical Engineering 422. Staff
 Basic principles; theoretical and actual cycles; performance characteristics with experimental laboratory analysis.
- 583 (583). **Principles of Turbomachinery***. (2:2:0) Arr. Prerequisites: Mechanical Engineering 321, 411. Staff
 Analysis and design of all types of turbomachinery.
- 585 (585). **Jet Propulsion Power Plants***. (3:3:0) Arr. Prerequisites: Mechanical Engineering 412, 422. Staff
 Analysis of power plants, including performance of prime movers, economics, and matching of components.
 Analysis of power plants, including performance of prime movers, economics, and heat balance studies.
- 590 (590). **Mechanical Engineering Problems**. (1:0:3) F. Prerequisite: fifth year standing. Staff
 Selected problems from the field which will enable the student to integrate his fundamental knowledge in their solutions.
- 591, 592 (591, 592, 593). **Seminar**. (1:1:0) F. Prerequisite: fifth year standing. Staff
 Student and faculty presentation of topics of special and current interest.
- 595, 596 (596, 597, 598). **Special Problems***. (Arr.) Arr. Prerequisite: consent of department chairman. Staff
- 597 (599). **Undergraduate Research***. (Arr.) Arr. Prerequisite: consent of department chairman. Staff

Graduate Courses

- 611 (610). **Fluid Dynamics***. (3:3:0) Arr. Prerequisites: Mechanical Engineering 412; Mathematics 317. Staff
 Steady and unsteady flow of compressible and incompressible fluids; principles of operation of fluid dynamical machinery.
- 635 (635). **Advanced Vibration Analysis***. (3:3:0) Arr. Prerequisite: Mechanical Engineering 535. Staff
 Vibration characteristics of systems with several degrees of freedom; elastic bodies; systems with transient vibrations, and simple non-linear systems.

*Electives offered upon approval of department chairman. Frequency based upon sufficient demand.



Music	Professors:	deJong (emeritus), Halliday*, Jepperson-Madsen (emeritus), Madsen (emeritus).
	Associate Professors:	Gates (chairman, 255 C), Earl, Martino, Sardoni.
	Assistant Professors:	Buggert (emeritus), Cannon, Cundick, Gulbrandsen, Hansen (emeritus), Keeler, H. Laycock, R. Laycock, Nordgren, Wakefield, Weight, R. Woodward.
	Instructors:	Ballou, Bos, Bradley, Bradshaw, Cheney, Curtis, Edlefsen, Freed, Fitzroy, Fuerstner, Groesbeck, Mathews, McAllister (emeritus), McMurdie, Nibley, Nelson, Terry, Weinzinger, Wilkes, M. Wood- ward.

Music Majors

A baccalaureate degree in music can be taken with a major in applied music, music theory, or music education (secondary). The curriculum for a major in applied music or music theory leads to the Bachelor of Arts degree. The curriculum for a major in music education leads to either the Bachelor of Arts or the Bachelor of Science degree.

Music Minors

Any fourteen hours in music constitutes a graduation minor.

Music Education Minors

Elementary:

Prospective elementary school teachers who desire a minor in music are required to take Music 101, 191, 193, 201, 202, 4 hours of ensemble (band, orchestra, or chorus), and 3 hours of class and/or private piano.

Secondary:

A—Instrumental: Prospective secondary school teachers who desire a teaching minor in instrumental music are required to take the following courses: Music 101, 191, 193, 201, 202; 4 hours of band or orchestra; 6 hours selected from the following: Music 160p, 360p (on instrumental specialty), 368, 370, 372, 375*.

B—Vocal: Prospective secondary school teachers who desire a teaching minor in vocal music are required to take the following courses: Music 101, 191, 193, 201, 202, 374; 4 hours of group and/or private voice; and 4 hours of vocal ensemble.*

Degree in Applied Music

To receive a Bachelor of Arts degree with a major in applied music,* a student completes the following music courses or their equivalent:

	Hours
Music 191, 192, 193, 194, 291, 292	16
Music 201, 202 and either Music 374 or 375	6
Music 484, 485	6

Music 491	3
Music Ensemble	8
Private instruction on major instrument or voice	16
(Keyboard majors take 4 hours of ensemble plus Music 292 and 391.)	

Majors in the various fields of applied music are required to take certain special classes in addition to the above requirements:

Piano majors take Music 563, 564, 565.

Organ majors take Music 467, 468.

Woodwind majors take Music 368.

Brass majors take Music 370.

String majors take Music 372.

Voice majors take Music 566, 567, 568.

*Students who major or minor in music attend lyceums as well as Music Department recitals and concerts. Majors must accumulate six semesters of satisfactory attendance at such events during their four years (minors need four semesters). In order to achieve satisfactory attendance, a student may not be absent from more than two such concerts or recitals during any one semester. Students who fail to accumulate the necessary satisfactory attendance are required to take Music 103 during their last semester before graduation.

The hours to be taken in individual or group instruction may be reduced if a student has already had considerable training in these areas, as determined by entrance examinations. At the end of each year of individual instruction the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination, each candidate submits a list of his repertoire indicating compositions or studies especially prepared for the examination. Forms on which record of the student's repertoire is kept and outlines of instrumental and vocal proficiency requirements are available at the Music Department office.

Majors in applied music (except keyboard majors—see ensemble requirements above) participate in a music ensemble each quarter of their undergraduate training. Instrumental majors participate in at least one instrumental ensemble and one vocal ensemble. Voice majors sing in at least two vocal ensembles.

A major in applied music must accumulate at least sixty minutes of recital appearance time either as soloist or chamber music ensemble performer.

The following sequence of courses is recommended for majors in applied music:

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion (Music 201,		
English	3	3	202)	2	2
Physical Education	1	1	Language (1st or		
Health		2	2nd year)	4	4
Music 160p			Music 291, 292	4	4
(on specialty)	2	2	Music 160p	2	2
Ensemble	1	1	Ensembles	1	1
Music 191, 192	2	2	General Education	3	3
Music 193, 194	2	2			
Music 97, 98 if needed ..	0	0			
General Education	2	2			
	<hr/>	<hr/>	Total hours	16	16
Total hours	15	17			

Junior Year			Senior Year		
	F	S		F	S
Religion	2	2	Religion	2	2
Language (2nd year)	4	4	Music 484, 485	3	3
Music 360p	2	2	Music 491		3
Ensembles	1	1	Music 360p	2	2
Music 374 or 375	2	2	Ensembles	1	1
General education	5-7	5-7	General education	3	3
			Electives (these must include the special music classes)	5	2
Total hours	16	16			
			Total hours	16	16

Degree in Music Theory

For a Bachelor of Arts degree with a major in music theory, a student is required to complete the following music courses or their equivalents:

	Hours
Music 191, 192, 193, 194, 291, 292, 391, 491, 571, 572	28
Music 201, 202 and 374 or 375	6
Music 484, 485	6
Music 160p or 360p (functional piano, pass sophomore proficiency standards)	4
Music 581 or 587	3
Ensemble	4
Individual Instruction on specialty	4
Advanced Music Literature	2-3

Students who major in music theory attend lyceums as well as Music Department recitals and concerts. Majors must accumulate six semesters of satisfactory attendance at such events during the four years. In order to achieve satisfactory attendance, a student may not be absent from more than two such concerts or recitals during any one semester. Students who fail to accumulate the necessary satisfactory attendance are required to take Music 103 during their last semester before graduation.

The hours to be taken in individual or group instruction may be reduced if a student has already had considerable training in these areas, as determined by entrance examinations. At the end of each year of individual instruction the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination, each candidate submits a list of his repertoire indicating compositions or studies especially prepared for the examination. Forms on which record of the student's repertoire is kept and outlines of instrumental and vocal proficiency requirements are available at the Music Department office.

Majors in music theory participate in musical ensembles a minimum of four semesters of undergraduate training. The student performs in at least two ensembles. A student whose specialty is a band or orchestral instrument takes two hours of instrumental ensemble and two hours of choral ensemble. A student whose specialty is voice sings in at least two vocal ensembles.

The ability to play the piano is an indispensable tool for music theory majors; consequently, every major in music theory must pass a piano proficiency examination (second year standards) during the first semester of residence or take group or individual piano instruction until he passes the examination.

The following sequence of courses is recommended for majors in music theory:

Freshman Year			Junior Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English	3	3	Language (2nd year)	4	4
Physical Education	1	1	Music 391	3	
Music 169p (on specialty)	2	2	Music 491		3
Music 191, 192	2	2	Music 484, 485	3	3
Music 193, 194	2	2	Music 374 or 375	2	or 2
Ensembles	1	1	General education	2-4	2-4
Health 130		2			
General education	2	2			
Music 97, 98 if needed ..	0		Total hours	16	16
	15	17			
Sophomore Year			Senior Year		
	F	S		F	S
Religion (Music 201, 202)	2	2	Religion	2	2
Language (1st or 2nd year)	4	4	Music 571, 572	3	3
Music 291, 292	4	4	Music 581 or 587	3	
Music 160p (private piano)	2	2	Literature (Humanities)		2
Ensembles	1	1	General education	5	3-4
General education	3	3	Electives	3	3
			Advanced Music Literature		3
Total hours	16	16	Total hours	16	16-17

Degree in Music Education

Prospective secondary school teachers may elect a composite music education major, a composite vocal major, or a composite instrumental major.

To receive a Bachelor of Science degree with a composite music education major, a student is required to complete the following music courses or their equivalents:

	Hours
Music 191, 192, 193, 194, 291, 292	16
Music 201, 202	4
Music 363, 364, 367, 368, 370, 372	9
Music 374, 375, 378	5
Music 484, 485	6
Ensemble	4
Private Instruction on specialty	12

Students who major in music education attend lyceums as well as Music Department recitals and concerts. Majors must accumulate six semesters of satisfactory attendance at such events during the four years. In order to achieve satisfactory attendance, a student may not be absent from more than two such concerts or recitals during any one semester. Students who fail to accumulate the necessary satisfactory attendance are required to take Music 103 during their last semester before graduation.

For the Bachelor of Science degree with a composite major in Music Edu-

cation the student pursues the following sequence of courses:

Freshman Year							
	F	S					
Religion (Music 201)	2	2		Music 374	2		
English	3	3		Instruction 301		2	
Physical Education	1	1		Total hours	16		18
Health	2						
Music 160p				Junior Year			
(on specialty)	2	2			F	S	
Music 191, 192	2	2		Religion	2	2	
Music 193, 194	2	2		Music 485	3		
Ensemble	1	1		Music 360p	2		
Music 363, 364	1	1		Music 375	2		
Music 202		2		Music 367		1	
General education re-				Music 378		1	
quirements (Music 97,				General education	5		
98 if needed)	0-3	0		Music 377	3		
Total hours	16-19	16		Music 479		8	
				Ed. Instr. 405		2	
				Health Ed. 362		2	
				Total hours	17		16
Sophomore Year				Senior Year			
	F	S			F	S	
Religion (Music 202)	2	2		Religion	2	2	
General education	3			Music 360p	2		
Music 160p				General education	6	6	
(on specialty)	2	2		E.R.S. 410	3		
Music 291, 292	4	4		Literature		4	
Ensemble	1	1		Humanities (3rd field) ..		2	
Music 484		3		Instr. 406		2	
Music 368	2			Total hours	17		16
Music 370		2					
Music 372		2					

Recommended course sequences for composite vocal or for composite instrumental majors are available at the Music Department office.

Lower Division Courses

97, 98 (107, 108, 109). Group Piano Instruction. (0:0:2 ea.) F.S.

Bradshaw, Keeler, McMurdie, Wakefield

Class instruction designed for those music majors and minors who cannot pass the piano proficiency examination. Not open to piano majors.

101 (101). Introduction to Music. (3:3:0) F.S.Su. (G-HA)

Bos, Earl, Wakefield, Wilkes

Non-technical introduction to the fundamental concepts of melody, rhythm, harmony, form, etc. as a basis for understanding and enjoying the masterpieces of our musical heritage. Open to all students without previous training in music.

102 (102). Music Fundamentals and Skills for Classroom Teachers. (2:2:1) F.S.Su.

Groesbeck, Terry

Practical experiences in fundamentals and skills of music. Instruction in techniques of playing simple melody and harmony instruments and writing music symbols. Required of elementary education majors.

103 (103). Survey of Music Literature. (2:2:0) F.S.Su. (G-HA)

Earl, Wakefield, Wilkes

Musical masterpieces from the Renaissance to the present. No prerequisite, but designed for students with some experience in music.

- 105 (105). **Class Piano for Beginners in Music.** (2:2:0) F.S.Su. McMurdie, Staff
 Minimum of one hour daily practice required outside of class. Instruction in notation of music and in keyboard technique, especially designed for prospective elementary school teachers.
- 110 (110). **University Chorale.** (1:0:5) F.S.Su. Weinzinger
- 116 (116). **Male Chorus (Schola Cantorum).** (1:0:5) F.S. Prerequisite: consent of director. R. Woodward
- 119 (119). **Women's Chorus (Schola Cantorum).** (1:0:5) F.S. Prerequisite: consent of director. R. Woodward
- 122 (122). **Madrigal Singers.** (1:0:5) F.S. Prerequisite: consent of director. Halliday
- 125 (125). **A Cappella Choir.** (1:0:5) F.S. Prerequisite: consent of director. Weight
- 128 (128). **Opera Workshop.** (1:0:5) F.S.Su. Prerequisite: consent of director. Earl
- 134 (New). **Basic Choral Training.** (1:0:2) F. Prerequisite: admission by audition. Staff
 The development of basic skills in choral singing and a knowledge of music fundamentals preparatory to membership in select choral groups.
- 135 (135). **Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director. Ballou
- 138 (138). **Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director. R. Laycock
- 144 (144). **Theatre Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director. Earl
- 147 (147). **Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director. Sardoni
- 150 (150). **Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3) F.S.Su. Staff
- 160p (160p). **Private Instruction.** (2:1:0) F.S.Su. Staff
 Fifteen lessons per semester. Special fee.
 Brass: trumpet, cornet, French horn, trombone, baritone, tuba. Ballou, R. Laycock, Martino, Wilkes
 Harp: Bradley
 Harpsichord: Wakefield
 Organ: Keeler
 Percussion: Johnson, R. Laycock, Martino
 Piano: Bradshaw, Cannon, Cundick, de Jong, Fitzroy, Fuerstner, Gates, Keeler, Nelson, Wakefield
 Recorder: Cannon, Wakefield
 Strings: violin, viola, cello, string bass. H. Laycock, Nibley, Nordgren, Sardoni
 Voice: Curtis, Earl, Gulbrandsen, Halliday, Jepperson-Madsen, F. Madsen, Mathews, McAllister, Terry, Weight, Weinzinger, M. Woodward, R. Woodward
 Woodwinds: flute, oboe, clarinet, bassoon, saxophone. Bos, Edlefsen, R. Laycock
- 170 (170). **Group Vocal Instruction.** (1:2:0) F.S.Su. Terry, Weinzinger
 Class instruction for beginners in vocal production.
- 191, 192 (190, 191, 192). **First Year Basic Theory.** (2:0:3 ea.) F.S. Prerequisite:

sites: reading ability in music and one year of piano study or simultaneous registration for Music 97, 98. Staff

Tonal harmony, part writing, modulation, analysis, simple forms. Must be taken with 193 and 194 respectively unless required proficiency in music skills is demonstrated.

- 193, 194 (190, 191, 192). First Year Basic Music Skills.** (2:0:4) F.S. Prerequisites: reading ability in music and one year of piano study, or simultaneous registration for Music 97, 98. Staff
- Ear training, dictation, sight singing, keyboard. Two 2-hour periods per week. Must be taken with 191 and 192 respectively unless proficiency in part-writing is demonstrated.
- 201 (301). Baton Technique and Hymnody.** (2:2:0) F.S.Su. (G-R) Prerequisite for music majors and minors: Music 191, 193. Staff
- 202 (302). Essentials in Conducting.** (2:2:0) F.S. (G-R) Prerequisites: Music 191, 193 or equivalent, and Music 201. Staff
- 237 (237). Music and Materials for Elementary Children.** (2:2:1) F.S.Su. Prerequisite: Music 102. Groesbeck, Terry
- Materials, methods, and problems pertaining to the teaching of music to elementary children. Required of all elementary education majors.
- 262 (466). The Art of Piano Accompaniment.** (1:0:2) F.Su. Fuerstner
- 263 (263). Piano Accompanying.** (1:0:3) F.S.Su. Staff
- 291 (290, 291). Second Year Basic Theory.** (4:4:3) F. Prerequisites: Music 192, 194. Staff
- Diatonic and chromatic harmony, modulation, ear training, dictation, sight singing, keyboard, chorale harmonization, form and analysis, elementary composition. Three hours ear training (lab) per week.
- 292 (291, 292). Second Year Basic Theory.** (4:5:0) S. Prerequisite: Music 291. Staff
- Harmonic counterpoint, analysis of harmonic and contrapuntal forms, arranging for choral and instrumental groups, elementary composition.
- 294 (293, 294). Theory Review.** (2:0:5) Su. Prerequisite: Music 292 or equivalent. Staff
- Designed to help transfer and graduate students regain the necessary understanding and skills needed to do advanced work in music.

Upper Division Courses

- 310 (310). University Chorale.** (1:0:5) F.S.Su. Weininger
- 316 (316). Male Chorus (Schola Cantorum).** (1:0:5) F.S. Prerequisite: consent of director. R. Woodward
- 319 (319). Women's Chorus (Schola Cantorum).** (1:0:5) F.S. Prerequisite: consent of director. R. Woodward
- 322 (322). Madrigal Singers.** (1:0:5) F.S. Prerequisite: consent of director. Halliday
- 325 (325). A Cappella Choir.** (1:0:5) F.S. Prerequisite: consent of director. Weight
- 328 (328). Opera Workshop.** (1:0:5) F.S.Su. Prerequisite: consent of director. Earl
- 335 (355). Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director. Ballou

- 338 (338). **Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director.
R. Laycock
- 344 (344). **Theatre Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
Earl
- 347 (347). **Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
Sardoni
- 350 (350). **Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3) F.S.Su. Staff
- 360p (360p). **Private Instruction.** (2:1:0) F.S.Su. Staff
Fifteen lessons per semester. Special fee. (For staff see 160p)
- 363, 364 (363, 364, 365). **Vocal Workshop.** (1:0:2 ea.) F.S. Woodward
Voice building, problems of solo and group singing, and survey of solo and small ensemble literature. Designed for music education majors.
- 367 (367). **Percussion Workshop.** (1:0:5) S.Su. ($\frac{1}{2}$ semester) Prerequisite: Music 192 or its equivalent. R. Laycock
Designed to help music education majors learn to play and to teach percussion instruments. Survey of materials.
- 368 (368, 369). **Woodwind Workshop.** (2:0:5) S.Su. Prerequisite: Music 192 or equivalent. Edlefsen, R. Laycock
Designed to help music education majors learn to play and to teach woodwind instruments. Survey of materials.
- 370 (370, 371). **Brass Workshop.** (2:0:5) S.Su. Prerequisite: Music 192 or equivalent. Staff
Designed to help music education majors learn to play and to teach brass instruments. Survey of materials.
- 372 (372, 373). **String Workshop.** (2:0:5) F.Su. Prerequisite: Music 192 or equivalent. Staff
Designed to help music education majors learn to play and to teach string instruments. Survey of materials.
- 374 (374). **Choral Practicum.** (2:0:5) S.Su. Prerequisites: Music 202, 364, or equivalent. Weight, R. Woodward
Designed for music education majors. Experience in choral conducting and singing of typical school materials. Observation and application of rehearsal techniques.
- 375 (375, 376). **Instrumental Practicum.** (2:0:5) F.Su. Prerequisites: Music 202, 367, 368, 370, 372, or equivalent. R. Laycock
Experience for music education majors in orchestra and band conducting and playing of school materials on the students' minor instruments. Observation and application of rehearsal techniques.
- 378 (378). **General Music Practicum.** (1:0:5) S. $\frac{1}{2}$ semester. Terry
Designed for music education majors. Experience in materials, methodology, and management of the general music education program in public schools.
- 391 (390, 391). **Harmony at the Keyboard.** (3:3:0) F. Prerequisites: Music 192 and moderately advanced keyboard technique. Keeler
Harmonization of figured and unfigured basses and other voices; cadences, sequences, transpositions, modulations, and improvisations at the keyboard.
- 463 (463). **Piano Accompanying.** (1:0:3) F.S.Su. Staff
- 467, 468 (467, 468). **Organ Problems.** (2:2:0 ea.) F.S. Prerequisites: advanced standing as an organ student, and consent of instructor. Keeler
Registration, accompaniment playing, and related problems.

- 484, 485 (383, 484, 485). History of Music.** (3:3:0 ea.) F.S.Su. (G-HA) Pre-requisites: Music 192 or Music 101, 102, and 103 or equivalent.
Cannon, Wakefield
- 491 (New). Analytical Techniques.** (3:3:0) S.Su. Prerequisite: Music 292. Staff
Development of skill in recognizing processes by which the basic elements of music are organized into compositions of various forms and styles.

Advanced Undergraduate or Graduate Courses

- 501 (489). Music in America.** (3:3:0) S.Su. Prerequisite: Music 485 or consent of instructor.
Wilkes
- 537x (537x). Music for Elementary School Teachers (Advanced).** (2:2:0) Extension course only. Prerequisites: Music 102, 237.
Grosbeck
Experiences in teaching and various music activities in the elementary school.
- 563, 564 (563, 564). Piano Repertoire.** (1:0:2 ea.) F.S.Su. Prerequisite: advanced standing as a pianist.
Fuerstner
- 565 (565). Piano Pedagogy.** (2:2:0) S. Prerequisite: advanced standing as a pianist.
Keeler
Methods, materials, and problems in teaching piano.
- 566, 567 (566, 567). Vocal Repertoire.** (1:0:2 ea.) F.S.Su. Prerequisite: advanced ability as a singer.
Weinzinger
- 568 (568). Vocal Pedagogy.** (2:2:0) S.Su. Prerequisite: advanced standing as a singer.
Weight
Methods, materials, and problems in teaching voice.
- 571, 572 (670, 671, 672). Counterpoint.** (3:3:0 ea.) F.S.Su. Prerequisite: Music 292.
Cundick
- 581, 582 (680, 681, 682). Orchestration.** (3:3:0 ea.) F.S.Su. Prerequisite: Music 292.
Gates
- 587, 588 (587, 588, 589). Composition.** (3:3:0 ea.) F.S.Su. Prerequisite: Music 292.
Fuerstner

Music Education

- 377 (377). Secondary Teaching Procedures.** (3:3:1) F. Prerequisite: Instruction 301.
Martino
See Instruction 377.
- 479 (479). Secondary Student Teaching.** (8:full day, last half of semester) S. Prerequisite: Music 377.
Staff
See Instruction 479.

Graduate Courses

- 601 (601). Music in the Primary Grades.** (2:2:0) F. Prerequisites: Music 102, 237, and the equivalent of an elementary education teaching minor in music.
Grosbeck
- 602 (602). Music in the Intermediate Grades.** (2:2:0) S. Prerequisites: Music 102, 237, and the equivalent of an elementary education teaching minor in music.
Grosbeck
- 603 (New). Music in the Junior High School.** (2:2:0) S.Su. Prerequisite: Music 602 or equivalent.
Terry
Advanced course for graduate students in music education. The principles, practices, and programs in the junior high school.

- 605 (605). **Influence of Music on Behavior.** (3:3:0) F. Prerequisite: general psychology or equivalent. Martino
Required of all graduate students majoring in music education.
- 612 (612). **Music Education in Society.** (3:3:0) S. Prerequisites: Music 484, 485 or equivalent. Martino
Required of all graduate students majoring in music education.
- 613 (613). **Basic Concepts in Music Education.** (2:2:0) F. Martino
The principles, practices, and programs of music education. A course designed for and required of all graduate music students.
- 615 (615). **Vocal Methods, Materials, and Resources.** (2:2:0) F.Su. Prerequisite: Music 479 or equivalent. R. Woodward
- 616 (616). **Instrumental Methods, Materials, and Resources.** (2:2:0) S.Su. Prerequisite: Music 479 or equivalent. H. Laycock
- 620 (620). **Advanced Conducting.** (2:2:2) F. Prerequisites: Music 374, 375 or equivalent. R. Laycock, Sardoni
- 625 (625). **Summer Music Clinic.** (2:4:4: for two weeks during clinic) Su. Staff
May be counted as either music education or applied music.
- 635 (635). **Musical Research Techniques.** (3:3:0) F.Su. Prerequisite: graduate standing or consent of instructor. Earl
Required of all candidates for graduate music degrees.
- 637 (637, 638). **History and Literature of Music before 1750.** (5:5:0) F.Su. Prerequisite: Music 485 or equivalent. Cannon, Wilkes
- 638 (638, 639). **History and Literature of Music after 1750.** (5:5:0) S.Su. Prerequisite: Music 485 or equivalent. Cannon, Wilkes
- 640 (640, 641, 642). **Symphonic Music.** (3:3:0) F.Su. Offered 1961-62 and alternate years. Prerequisite: Music 485 or equivalent. Wilkes
- 643 (643, 644, 645). **Chamber Music.** (3:3:0) F.Su. Offered 1960-61 and alternate years. Prerequisite: Music 485 or equivalent. Wakefield
- 646 (646, 647, 648). **Operatic Music.** (3:3:0) S.Su. Offered 1960-61 and alternate years. Prerequisite: Music 485 or equivalent.
- 649 (649, 650, 651). **Choral Music.** (3:3:0) S.Su. Offered 1961-62 and alternate years. Prerequisite: Music 485 or equivalent. Staff
- 652 (652). **History of Notation and Paleography.** (3:3:0) F.Su. Prerequisite: Music 485 or equivalent. Cannon
- 656 (656). **Hymnology.** (2:2:0) S. Prerequisite: Music 485 or equivalent. Weight
- 660p (660p). **Private Instruction.** (2:1:0) F.S.Su. Staff
Fifteen lessons per semester. Special fee. (For staff see 160p).
- 663 (663). **Solo Recital.** (2:0:6-10) F.S.Su. Staff
Required of all graduate students minoring in applied music.
- 673 (676, 677). **Form and Analysis.** (3:3:0) F.Su. Prerequisites: Music 491, 572. Bradshaw, Gates
- 675 (675). **Materials of Modern Music.** (3:3:0) S.Su. Prerequisite: Music 673. Bradshaw, Gates
- 686 (686). **Pedagogy of Music Theory.** (3:3:0) F.Su. Prerequisite: Music 292. Nordgren

- 687, 688 (687, 688, 689). Composition.** (3:3:0 ea.) F.S.Su. Prerequisite: Music 588 or equivalent. Fuerstner, Gates
- 693 (693, 694). Pro-seminar in Music.** (2:2:0) S.Su. Prerequisites: Music 485, 635 or equivalent and approval of advisory committee. Staff
- 694 (695). Independent Readings.** (2:0:6) F.S.Su. Prerequisite: Music 693 or equivalent. Staff
- 695 (695). Independent Readings.** (2:0:6) F.S.Su. Prerequisite: Music 693 or equivalent. Staff
- 698 (698). Composition for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee, based on evidence of ability in composition. Staff
To be submitted in lieu of a thesis by candidates for the master's degree majoring in composition.
- 699 (699). Thesis for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee. Staff
Candidates for the master's degree are required to show competence in writing and research before work is started on the thesis.
- 753 (New). Advanced Problems in Notation.** (3:3:0) F. Prerequisites: Music 485, 652. Cannon
- 754 (653). History of Musical Instruments.** (3:3:0) F. Prerequisite: Music 485 or equivalent. Wakefield
- 785 (685). Historical Aspects of Music Theory.** (3:3:0) S.Su. Prerequisite: Music 292. Nordgren
- 791 (New). Acoustics of Music.** (3:3:0) S. Not given this year. Prerequisite: Music 292. Staff
- 794 (New). Seminar in Music.** (3:3:0) F.S.Su. Prerequisite: approval of graduate advisory committee. Staff
- 799 (799). Dissertation for the Doctor of Philosophy Degree.** (1-4:Arr.:Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee. Staff
Candidates for the doctor of philosophy degree are required to show competence in writing and research before work is started on the dissertation.

Nursing



Associate Professors: Chapman (dean, 2240 SFLC), Jenny.

Assistant Professors: Kohler, Massey.

Instructors: Allred, Alward, Bethers, Potter, Stevensen, Wilson.

Special Instructors: Cook.

Requirements for a Major and Minor

The following program includes the requirements for a major and minor in nursing:

First Year				Physics 100 3			
	F	S	Su	Humanities 3			
English 111, 112	3	3		History 170 or 180 3			
Religion	2	2					
Physical Education ½	½	½	½	Total hours18½ 17 3			
Chemistry 101, 102	4	4					
Zoology 105, 261	3	4		Third Year			
Psychology 111	3			F S Su			
Nursing 201		2		Religion 4 2			
211		2		Sociology 403 3			
Sociology 111			3	Nursing 351, 324 4 3			
Bacteriology 121			3	Nursing 361, 334 6 3			
Food and Nutrition				Nursing 475 2			
115			2	Nursing 477 2			
				Nursing 485 4			
Total hours	15½	17½	8½	Total hours17 16			
Second Year				Fourth Year			
	F	S	Su		F	S	Su
Physical Education ½	½			Religion 2			
Nursing 380, 223	2	3		Humanities 6			
202, 233	5	4		Nursing 325, 488 5 6			
212, 421	5	3		Nursing 335, 490 5 3			
431		4					
H.D.F.R. 210	3			Total hours12 15			

For Non-Nursing Majors:

Lower Division Course

288 (288). **Family Health and Home Nursing.** (1:1:0) F.S. Jenny, Staff

Essential knowledge and attitudes about healthful family living. Skills in giving home nursing care to the sick or injured. Essentials of maternal health and child care.

For Majors in Nursing:**Lower Division Courses**

- 201 (201). Fundamentals of Nursing.** (2:2:0) F.S. Prerequisites: completion of or concurrent registration in Zoology 261 and Chemistry 102. Staff
Introduction to physiological needs in health and illness, and the nurse's role in providing for these needs.
- 202 (202, 218). Introductory Medical-Surgical Nursing.** (5:5:0) S. Prerequisites: Nursing 201; Bacteriology 121; Food and Nutrition 115; and completion of or concurrent registration in H.D.F.R. 210 and Physics 100. Staff
Beginning medical-surgical nursing including asepsis and drug administration, continuing with the approach used in Nursing 201.
- 211 (211). Fundamentals of Nursing Laboratory.** (2:0:8) F.S. Prerequisite: concurrent registration in Nursing 201. Staff
Supervised experience in applying nursing skills.
- 212 (212, 218, 348). Introductory Medical-Surgical Nursing Laboratory.** (5:0:20) S. Prerequisite: concurrent registration in Nursing 202. Staff
Supervised experience in applying techniques including beginning operating room skills.
- 223 (203, 220, 320, 340). Intermediate Medical-Surgical Nursing.** (3:6:0) Su. Eight-week block. Prerequisite: Nursing 202. Bethers, Stevensen, Cook
Continuation of medical-surgical nursing organized around physiological and emotional needs; diet therapy and pharmacology included.
- 233 (213, 340, 348, 429). Intermediate Medical-Surgical Nursing Laboratory.** (4:0:32) Su. Eight-week block. Prerequisite: concurrent registration in Nursing 223. Bethers, Stevensen, Cook
Guided experience in patient-centered nursing care arising from physiological needs; includes diet therapy experience.

Upper Division Courses

- 304 (304). Intermediate Medical-Surgical Nursing.** (4:8:0) F. Eight-week block. Prerequisite: Nursing 203. Bethers, Stevensen, Cook
For students graduating in 1960. Continuation of medical-surgical nursing, organized around problems of patients with impairment or loss of essential body functions: digestive, excretory, reproductive, respiratory, and circulatory.
- 314 (314). Intermediate Medical-Surgical Nursing Laboratory.** (4:0:32) F. Eight-week block. Prerequisite: concurrent registration in Nursing 304. Staff
For students graduating in 1960. Experience in nursing care related to and correlated with Nursing 304.
- 324 (304, 340, 352). Advanced Medical-Surgical Nursing.** (3:6:0) Su. Eight-week block. Prerequisite: Nursing 223. Bethers, Stevensen, Cook, Potter, Wilson
Emphasis on surgical principles and the acutely ill child; further development of concepts of medical-surgical nursing.
- 325 (220, 320, 405, 429). Advanced Medical-Surgical Nursing.** (5:5:0) F. Prerequisite: Nursing 223. Bethers, Stevensen, Cook
Emphasis on complex problems arising from physiological and psychological needs, particularly thoracic and neuro-surgical patients; the nurse's role in civil defense.
- 334 (314, 340, 362). Advanced Medical-Surgical Nursing Laboratory.** (3:0:24) Su. Eight-week block. Prerequisite: concurrent registration in Nursing 324. Staff
Concurrent experience in hospitals and clinics.

- 335 (220, 320, 348, 415). **Advanced Medical-Surgical Nursing Laboratory.** (5:0:20) F. Prerequisite: concurrent registration in Nursing 325. Bethers, Stevensen, Cook
Experience concurrent with theory in the care of patients with complex nursing problems.
- 351 (351, 352). **Maternal and Child Health Nursing.** (4:4:0) F.S. Prerequisites: Nursing 202; H.D.F.R. 210. Kohler, Alward, Potter, Wilson
Complete nursing care of mothers throughout the maternity cycle including preparation for parenthood and family-centered nursing; care of the newborn infants; care of children in health and selected illnesses from the standpoint of their total well-being. Emphasis on mother and child as individuals and family members; the preventive, medical, and nursing aspect of their care.
- 361 (361, 362). **Maternal and Child Health Nursing Laboratory.** (6:0:24) F.S. Prerequisite: concurrent registration in Nursing 351. Alward, Kohler, Potter, Wilson
Experience in care of mothers and children in physicians' offices, maternity and pediatric clinics, and maternity and pediatric hospital divisions.
- 380 (380, 490). **Trends in Nursing.** (2:2:0) S. Staff
Study in relationships, origin, and development of nursing to present patterns.
- 405 (405). **Advanced Medical-Surgical Nursing.** (3:6:0) F. Eight-week block. Prerequisite: Nursing 304. Staff
Continuation of medical-surgical nursing, with emphasis on advanced understanding and skills in meeting complex nursing problems. (For students graduating in 1960).
- 415 (415). **Advanced Medical-Surgical Nursing Laboratory.** (3:0:24) F. Eight-week block. Prerequisite: concurrent registration in Nursing 405. Staff
For students graduating in 1960. Experience in nursing care related to and correlated with Nursing 405.
- 421 (421). **Psychiatric Nursing and Mental Health.** (3:6:0) S.Su. Eight-week block. Prerequisites: Psychology 111; Nursing 202. Massey
Dynamics of human behavior and their relationships to prevention, diagnosis, and treatment of mental illness; implications of psychiatric theories for nursing.
- 431 (431). **Psychiatric and Mental Health Nursing Laboratory.** (4:0:32) S.Su. Eight-week block. Prerequisite: concurrent registration in Nursing 421. Massey
Clinical experience in developing a nurse-patient relationship with acute and convalescent mentally ill patients, employing various means of communication toward meeting patient needs. Observation of patients receiving intensive analytic and somatic therapy.
- 475 (475). **Principles of Public Health Nursing.** (2:4:0) F.S. Eight-week block. Prerequisites: Nursing 351 and concurrent registration in Nursing 485. Allred, Jenny
Meanings and functions of public health nursing; application of principles in comprehensive nursing in the home or community setting.
- 477 (477). **Public Health Sciences.** (2:4:0) F.S. Eight-week block. Allred, Jenny
Meaning and scope of public health, public health organization and programs dealing with epidemiology, statistics, environmental control, maternal-child health, school health, chronic diseases, and geriatrics.
- 485 (485). **Public Health Nursing Laboratory.** (4:0:32) F.S. Eight-week block. Prerequisite: concurrent registration in Nursing 475. Allred, Jenny
Experience in public health nursing agency in giving comprehensive nursing

ing care to families and in working with allied professional workers and community agencies.

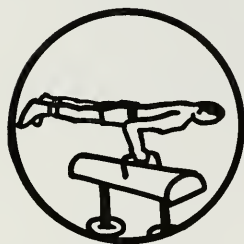
- 488 (488). **Comprehensive Nursing.** (6:0:24) S. Prerequisite: completion of all clinical nursing courses. Staff

An analytical approach to identify the nursing and health needs of selected patients and synthesize principles learned in nursing and related fields toward the goal of comprehensive care. Opportunities provided for development and initiation of nursing care plans on selected patients.

- 490 (470, 490). **Seminar in Professional Nursing Problems.** (3:3:0) S. Prerequisite: fourth year standing in nursing. Chapman

Opportunities and responsibilities inherent in the profession; emphasis on current problems and fields; management principles and their application to nursing team and head nursing activities.

Physical Education



Professors: Hart (chairman—men, 222 SFH), Holbrook (chairman—women, 320 WG), Hartvigsen, I. Heaton, E. R. Kimball.

Associate Professors: Nicholes, Stevens, Watts.

Assistant Professors: Barney, F. W. Dixon, Geddes, A. Heaton, Robison, Soffe, Watters.

Instructors: Apostol, Bangerter, Bunker, Calderwood, Chatwin, Crowton, O. Dixon, Hafen, Hirst, Jacobson, Jensen, Johnson, C. R. Kimball, Mitchell, Moe, Oswald, Rollins, Shaw, Tuckett, Wallace, Witbeck.

Each freshman student registering in 1960 is required to complete one physical education course in the 100 series (except 180) during each semester of his freshman and sophomore years. Transfer students must have the equivalent or take the courses before graduation. Exceptions: (1) Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the physical education requirement. (2) Engineering science students who withdraw from the air science program after two years are exempt from one semester hour of physical education.

A variety of activities is available for selection. Two year's work in physical education activity will provide the student with an opportunity for organic development, neuromuscular skill, social contact in game and team situations, and other carryover values.

Extra-curricular activities are promoted for student participation: games, sports, hikes, dancing, and intramural athletics. The department urges all students to participate regularly in some form of physical activity during their four years here.

Students using the towel service are required to make a 75-cent deposit by purchasing a towel check. This check is exchangeable for towel service during school hours and is redeemable at any time.

A thorough physical examination is required of each freshman student upon entering the University. Any student desiring exemption from physical education for medical reasons must obtain an excuse from the University physician. Written statements from a personal doctor must be approved by the University physician.

Students registered for physical education activity courses are required to provide themselves with the official uniform which may be purchased at the University book store. They are also required to provide themselves with an approved combination padlock for use on basket lockers.

Major Requirements

Physical Education—Men:

Physical Education 180, 181, 182, 231, 232, 233, 234, 235, 330, 341, 344, 371, 372, 373, 374, 390, 391, 413, 446, 464, and 2 to 3 hours of electives.

Physical Education—Women:

Physical Education 180, 181, 182, 183, 187, 188, 241, 242, 244, 245, 330, 341, 344, 375 or 376, 390, 391, 413, 446, 464, and 4 hours of electives.

Physical Education—Women (Dance Emphasis):

Physical Education 180, 181, 182, 183, 187, 188; two courses from 241, 242, 244, 245; four courses from 280, 281, 282, 283, 284, 285; 287; 288; 330; 341; 380; 383; 384; 387; 388; 390; 391; 446; 484; 485; 487; 488.

Dance Non-Teaching:

Physical Education 180, 181, 182, 183, 187, 188; four courses from 280, 281, 282, 283, 284, 285; 287; 288; 380; 383; 384; 387; 388; 484; 485; 487; 488.

Pre-Physical Therapy:

Physical Education 180; 181; 182; for men three hours from 231, 232, 233, 234, 235; 373; for women two courses from 241, 242, 244, 245; 570; for both men and women 330, 341, 344, 413, 446, and 464. In addition, students will take the following science foundation courses: Zoology 105 or Botany 101; Zoology 264, Chemistry 101 and 102, or Chemistry 111, 112 and 113; Physics 201; Mathematics 101 and 111.

Preparation courses, some of them filling the general education requirements for all above areas, are: Health 121, Botany 101, and Zoology 264.

Substitutions for any of the courses in the departments listed above will be allowed only upon approval of the department chairman.

Minor Requirements

Physical Education—Men:

Two courses from Physical Education 180, 181, 182; three hours from 231, 232, 233, 234, 235; 330; 341*; four hours from 371, 372, 373, 374; and 446.

Physical Education—Women:

Two courses from Physical Education 180, 181, 182, 183; 187; 188; three courses from 241, 242, 243, 244; 330; 341*; and 375 or 376.

Dance Non-Teaching:

Physical Education 180, 181, 182, 183, 187, 188, 287, 288, 380, 383, 384, 387, 388, 484, 485, 487, 488.

The department reserves the right to recommend substitutes for any of the above required courses.

Physical Education Specialization Designed for Elementary Majors:

Students majoring in elementary education who desire to elect a teaching minor in physical education will take the following courses:

25 hour list—Men: Physical Education 180; 181; 182; three courses from 231, 232, 233, 234, 235; 330; 341*; 373; 375; 376; 446; 464; and Health 121.

16 hour list—Men: Physical Education 180; 181; 182; three courses from 231, 232, 233, 234, 235; 330; 341*; 373; 375; 376; and 446.

25 hour list—Women: Physical Education 180; 181; 182; 241; 242; 245; 330; 341*; 375; 376; 446; 464; Health 121.

16 hour list—Women: Physical Education 180; 181; 182; 241; 242; 330; 341*; 375; 376; 446.

*Note: Zoology 264 is a prerequisite for P.E. 341.

Lower Division Courses

Activity Courses

All courses in the one hundred series except 180 count for general education credit in physical education.

101 (101, 102). Physical Education Activities—Men. (½:0:2-3) F.Su.

Crowton

Games and a variety of sports activity.

- 102 (102, 103). **Physical Education Activities—Men.** ($\frac{1}{2}$:0:2-3) S.Su. Crowton
Sports Activity.
- 104 (104). **Recreation Sports.** ($\frac{1}{2}$:0:2-3) F.S.Su. Calderwood
Individual, dual, and group games and sports. Activities providing opportunity for ready development of skill and strategy for recreational satisfaction.
- 110 (100). **Boxing, Beginning—Men.** ($\frac{1}{2}$:0:2-3) F.S. O. Dixon, Witbeck
- 111 (111). **Boxing, Intermediate—Men.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 110 or equivalent. Soffe
- 113 (113). **Wrestling, Beginning—Men.** ($\frac{1}{2}$:0:2-3) F.S. Bangerter, Rollins
- 114 (114). **Wrestling, Intermediate—Men.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 113 or equivalent. Bangerter, Soffe
- 115 (New). **Fencing.** ($\frac{1}{2}$:0:2-3) F.S.Su. Staff
- 121 (121). **Track and Field, Indoor—Men.** ($\frac{1}{2}$:0:2-3) F. Robison
- 122 (155). **Track and Field, Freshman—Men.** ($\frac{1}{2}$:0:2-3) S. Robison
Limited to those qualifying for freshman track and field squad.
- 123 (123). **Badminton.** ($\frac{1}{2}$:0:2-3) F.S.Su. Calderwood, Soffe
- 125 (125). **Handball—Men.** ($\frac{1}{2}$:0:2-3) F.S. Hafen
- 126 (126). **Archery.** ($\frac{1}{2}$:0:2-3) F.S.Su. Jacobson
Individual techniques with various types of tournaments and related archery activities. Students furnish their own arrows, bow strings, and finger tabs.
- 127 (Recreation 121). **Bowling.** ($\frac{1}{2}$:0:2-3) F.S. Fee. Dixon
- 128 (New). **Adaptive Games and Exercises.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: permission of instructor. Limited to individuals with handicaps who may benefit from individual or group activities. Barney
Individualized instruction in exercise and games, modified to benefit persons counseled to take the course.
- 131 (131). **Golf, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. Crowton
Two double periods each week at Timpanogos Golf Course. Fee.
- 132 (132). **Golf, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: Physical Education 131 or equivalent. Crowton
Two double periods each week at the Timpanogos Golf Course. Fee.
- 133 (133). **Tennis, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. F. W. Dixon, Hirst
- 134 (134). **Tennis, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: Physical Education 133 or equivalent. F. W. Dixon, Hirst
- 135 (135). **Skiing, First Year.** ($\frac{1}{2}$:0:5) S. Hirst, Jacobsen, Jensen, Watters
First year skiing for participants of varying abilities. Sections formed and instruction given in fundamentals of skiing. Fee. (Permission to withdraw with refund restricted.)
- 136 (136). **Skiing, Second Year.** ($\frac{1}{2}$:0:5) S. Hirst, Jacobson, Jensen, Watters
Second year skiing for participants of varying abilities. Classification for instruction based upon ability. Fee. (Permission to withdraw with refund restricted.)
- 137 (137). **Hiking.** ($\frac{1}{2}$:0:3-5) F.S.Su. Holbrook, Hafen
Hikes in the surrounding area graded according to length and difficulty will include related observations and study. Fee. (Permission to withdraw with refund restricted.)

- 138 (138). Outing Activities. ($\frac{1}{2}$:1:3-5) F.S.Su. Johnson
Selected seasonal activities which may include walking, nature observation and study, horseback riding, snowshoeing, coasting, bicycling, roller skating, canoeing, sleighing, ice skating, tracking and trailing, and outdoor cookery.
- 140 (140). Basketball, Beginning. ($\frac{1}{2}$:0:2-3) F.S. Crowton, Wallace
- 141 (141, 153). Basketball, Intermediate—Men. ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 140 or equivalent. Bunker
- 144 (144, 145). Volleyball. ($\frac{1}{2}$:0:2-3) F.S. Soffe, Wallace
- 148 (New). Soccer. ($\frac{1}{2}$:0:2-3) F.S. Wallace, Witbeck
- 149 (149). Field Sports—Women. ($\frac{1}{2}$:0:2-3) Wallace
- 150 (150). Hockey—Women. ($\frac{1}{2}$:0:2-3) F. Wallace
- 152 (152). Softball—Women. ($\frac{1}{2}$:0:2-3) F. Calderwood
- 154 (154). Football, Beginning. ($\frac{1}{2}$:0:2-3) F. Mitchell
Limited to those qualifying for freshman football squad.
- 155 (New). Football, Intermediate. ($\frac{1}{2}$:0:2-3) F. Staff
Limited to varsity football players.
- 156 (156). Baseball, Beginning. ($\frac{1}{2}$:0:2-3) S. Tuckett
Limited to those qualifying for freshman baseball squad.
- 157 (New). Baseball, Intermediate. ($\frac{1}{2}$:0:2-3) S. Tuckett
Limited to varsity baseball players.
- 160 (160). Swimming, Beginning. ($\frac{1}{2}$:0:2-3) S. Hirst, Wallace
Beginning swimming techniques to provide a foundation for skill, safety, and enjoyment of water activities. Fee. (Permission to withdraw with refund restricted.)
- 161 (161). Swimming, Intermediate. ($\frac{1}{2}$:0:2-3) S. Prerequisite: Physical Education 160 or equivalent. Wallace
Swimming skills including strokes, diving, and synchronizing. Fee. (Permission to withdraw with refund restricted.)
- 164 (164). Life Saving. ($\frac{1}{2}$:0:3) S. Hirst, Wallace
Fee.
- 165 (165). Water Safety Instruction. ($\frac{1}{2}$:0:3) S. Hirst, Wallace
Fee.
- 166 (166). Canoeing. ($\frac{1}{2}$:0:4) F.S.Su. Prerequisite: ability to pass swimming test. Hirst, Holbrook, Wallace
Instruction in canoeing techniques on the varied waterways of Utah County. American Red Cross basic canoeing and instructors cards issued to qualifying students. Fee. (Permission to withdraw with refund restricted.)
- 170 (170). Tumbling. ($\frac{1}{2}$:0:2-3) F.S.Su. Wallace
- 171 (171). Trampoline and Tumbling. ($\frac{1}{2}$:0:2-3) F.S. Moe, Wallace
- 173 (173). Trampoline and Gymnastics, Beginning. ($\frac{1}{2}$:0:2-3) F.S. Moe
Basic instruction in gymnastics and free exercises and trampoline; techniques in use of apparatus and equipment.
- 174 (174). Trampoline and Gymnastics, Intermediate—Men. ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 173 or equivalent. Moe

- 175 (New). **Preventive and Remedial Exercise.** ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: permission of instructor or referral by Health Center. Barney
A fundamental body mechanics, posture and corrective exercise program.
- 176 (176). **Activities for Fitness—Women.** ($\frac{1}{2}$:0:2-3) F.S.Su. Wallace
- 177 (177). **Principles and Methods of Body Mechanics.** ($\frac{1}{2}$:0:2-3) F.S.Su. Staff
- 178 (178). **Progressive Weight Training—Men.** ($\frac{1}{2}$:0:2-3) F.S.
Barney, Crowton
- 180 (180). **Social Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. (general education requirement credit not given). Calderwood, Heaton
- 181 (181). **Folk Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. Jensen
- 182 (182). **Square Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. Heaton, Jensen
- 183 (183). **Tap Dance.** ($\frac{1}{2}$:0:2-3) Arr. Jensen, Oswald
Fundamental and basic rhythms progressing into creative and interpretive tap dancing.
- 187 (187, 188). **Modern Dance Technique.** ($\frac{1}{2}$:0:2-3) F.S.
Chatwin, Oswald
Progressive fundamental techniques of movement with emphasis upon an understanding of rhythm, space, tension, relaxation, and basic locomotion activities.
- 188 (188, 189). **Modern Dance Technique.** ($\frac{1}{2}$:0:2-3) S. Prerequisite: Physical Education 187. Chatwin, Oswald
Progressive fundamental techniques of movement with emphasis upon an understanding of the qualities and the structural analysis of movement.

Professional Courses

- 206 (206, 207). **Sports Officiating—Men.** (2:2:0) F. Bunker, Soffe
Rules, techniques, problems, and procedures in officiating football, basketball, and other team and individual sports.
- 207 (207). **Sports Officiating—Women.** (2:1:3) F. Wallace
Rules, techniques, problems, and procedures in officiating softball, volleyball, and basketball.
- 231 (221, 222, 224). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Witbeck
Flag and tag football, soccer, boxing, and wrestling.
- 232 (221, 225). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Bangerter, Moe
Gymnastics, tumbling, and progressive weight training.
- 233 (223, 224, 227). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Crowton, F. W. Dixon
Tennis, golf, handball, squashball, and bowling.
- 234 (223, 226). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Soffe
Badminton, volleyball, games, and relays.
- 235 (228). **Sports Fundamentals for Majors—Men.** (1:0:3) S. Staff
Swimming, water safety, and life saving.
- 241 (241, 242). **Skills and Teaching Techniques—Women.** (2:0:4) F. Wallace
Soccer, speedball, volleyball, and marching.
- 242 (242, 243). **Skills and Teaching Techniques—Women.** (2:0:4) S. Wallace
Trampoline, tumbling, body mechanics, outdoor games, track and field, and softball.

- 244 (244, 245). **Skills and Teaching Techniques.** (2:0:4) F. First
Hockey, badminton, basketball, and activities calling for coordination,
balance, flexibility, agility, and timing.
- 245 (245, 246). **Skills and Teaching Techniques.** (2:0:4) S. First
Archery, golf, bowling, rope jumping, and recreational sports.
- 250 (250). **Methods for Ski Instruction.** (1:0:4) F. First
Instruction course in skiing for those who wish to qualify as student in-
structors in the ski program.
- 280 (280). **Techniques of Teaching Social Dance.** (1:0:2-3) F.S.Su. Prerequisite:
Physical Education 180. Heaton
- 281 (281). **Techniques of Teaching and Calling Square Dance.** (1:1:3) F. Pre-
requisite: a course of thorough performance and knowledge in square dance.
Jensen
Analysis of dance forms, their presentation for ready learning with study
and laboratory experience in square dance teaching and calling.
- 282 (282). **Square Dance, Advanced.** (1:0:2-3) F.S. Jensen
- 283 (Recreation 283). **Social Dance, Advanced.** (1:0:2-3) F.S. Heaton
- 284 (New). **Folk Dance, Advanced.** (1:0:2-3) F.S. Jensen
- 285 (Recreation 181). **South American Dance.** (1:0:2-3) F.S. Heaton
- 287 (287, 288). **Dance Composition.** (1:0:3) F. Prerequisites: Physical Educa-
tion 187, 188. Chatwin
Compositional consideration with emphasis upon the use of the elements
of space and fundamental locomotion movement.
- 288 (288, 289). **Dance Composition.** (1:0:3) S. Prerequisite: Physical Education
287. Chatwin
Compositional consideration with emphasis upon the use of qualities of
movement, rhythm, and form.

Upper Division Courses

Professional Courses

- 330 (330). **Principles of Physical Education.** (3:3:0) F.S.Su. Holbrook
The principles of physical education and the relationship of physical edu-
cation to total education.
- 341 (341). **General Kinesiology.** (3:3:0) F.S. Prerequisite: Zoology 264 or
equivalent. Barney
Anatomical and mechanical analysis of motion in relation to human per-
formance.
- 344 (344). **Physiology of Activity.** (3:3:0) F.S. Prerequisite: Zoology 264 or
equivalent. Barney, Nicholes
Physiological effects of muscular exercise and physical conditioning. Sig-
nificance of these effects for health and athletic performance together with
a consideration of nutrition.
- 371 (371). **Football Fundamentals and Coaching.** (2:3 for 8 weeks: 2 for 8
weeks) F.S. Apostol, Stevens
Theory and fundamentals of the game, methods of working out plays,
systems of offense and defense, and conditioning drills.
- 372 (372). **Basketball Fundamentals and Coaching.** (2:3 for 8 weeks: 2 for 8
weeks) F.S. Watts
Theory and fundamentals of offensive and defensive systems, and schedule

making.

- 373 (373). **Track and Field Fundamentals and Coaching.** (2:3 for 8 weeks: 2 for 8 weeks) F.S. Su. Robison
Theory, fundamentals, and techniques of track and field athletics with some emphasis upon management of meets.
- 374 (374). **Baseball Fundamentals and Coaching.** (2:3 for 8 weeks: 2 for 8 weeks) F.S. Tuckett
Theory, fundamentals, problems, and techniques of baseball with some consideration of team tactics, rules, and conditioning.
- 375 (375). **Physical Education for Teachers of Primary Grades.** (2:0:4) F.S.Su. Jacobson
Analysis of the fundamentals, the development of skills, and the application of methods in the teaching of games, rhythm, and recreation activities for grades 1, 2, and 3.
- 376 (376). **Physical Education for Teachers of Intermediate Grades.** (2:0:4) F. S.Su. Hirst
Analysis of fundamentals and development of skills for teaching in game, rhythm, and recreation activities for grades 4, 5, and 6.
- 377 (377). **Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisite: Instruction 301. Bangarter, Jacobson
See Instruction 377 for description.
- 380 (380). **Dance Production.** (2:3:2) S. Chatwin
Information on costuming, make-up, stage sets and scenery, lighting, and accompaniment for dance concerts.
- 383 (383). **Rhythmic Analysis and Movement.** (2:5:0) S. Oswald
The development of sensitivity and response through analysis of rhythm and its application to movement.
- 384 (283, 284, 285, 381, 382). **Accompaniment for Dance.** (2:2:3) F. Prerequisite: Physical Education 383. Oswald
Accompaniment based on rhythm, form, and analysis which is supportive of dance technique, interpretation, and expression.
- 387 (387, 388). **Advanced Modern Dance.** (1:0:5) F. Prerequisites: Physical Education 187, 188 or equivalent. Chatwin
Progressive techniques of movement for students with a strong background in modern dance.
- 388 (388, 389). **Advanced Modern Dance.** (1:0:5) S. Prerequisites: Physical Education 187, 188, 387 or equivalent. Chatwin
Progressive techniques of movement for students with a strong background in modern dance.
- 390 (New). **Majors' Conference in Health, Physical Education, Recreation and Youth Leadership.** (0:1:0) F. Bangarter, Hartvigsen, Holbrook, Staff
Professional orientation, lectures, projects, and discussions.
- 391 (New). **Majors' Conference in Health, Physical Education, Recreation, and Youth Leadership.** (0:1:0) S. Bangarter, Hartvigsen, Holbrook, Staff
- 413 (413). **Organization and Administration of Physical Education.** (2:2:0) F.S. Prerequisite: Physical Education 330. Hartvigsen
Administrative problems arising out of organizing and conducting health, physical education, and recreation programs in schools and communities.
- 446 (446). **Adaptation of Activities in Corrective Procedure.** (2:1:3) F.S. Prerequisites: Zoology 264 or equivalent; Physical Education 341. Barney
The selection and scope of corrective activities, forces and mechanics in body balance, variations of posture, methods of stimulating interest in posture, and the psychology of individual gymnastics.

- 464 (464). **Introduction to Statistics and Tests in Physical Education.** (3:3:1) F.S. Hart
Background course in physical achievement tests. History of the development, together with analysis of outstanding tests, in physical education and statistical procedures used in analyzing tests.
- 479 (478, 479). **Secondary Student Teaching.** (8:1:15) F.S. Bangerter, Hirst, Holbrook, Seffe
For course description and fees see Instruction 479.
- 484 (484). **Philosophy and Principles of Dance.** (2:3:0) S. Chatwin
Theories and philosophies of contemporary dance and dancers and the significance of these ideas in view of their effect upon modern educational and cultural uses of dance.
- 485 (485). **History of Dance.** (2:3:2) F. Prerequisites: Physical Education 187, 188, 387, 388. Chatwin
Beliefs and practices of various forms of dance from early and modern times.
- 487 (487, 488). **Concert Dance.** (1:0:3-4) F. Chatwin, Oswald
Performance techniques and composition for modern dance.
- 488 (488, 489). **Concert Dance.** (1:0:3-4) S. Chatwin, Oswald

Advanced Undergraduate or Graduate Courses

- 511 (511). **Administration of High School Athletics.** (2:2:0) F. E. R. Kimball
Education outcomes of high school athletics, their relationship to the intramural program, the physical education program, the school, and the community as a whole.
- 514 (314, 604). **Organization and Administration of Intramural Sports.** (2:2:0) F.S. Home Study also. Soffe
History, present status, and objectives of the intramural movement procedures concerning organization, administration, and supervision of the intramural program.
- 542 (542). **Physical Inspection.** (1:1:0) S. Staff
Ways of recognizing abnormalities of body function by inspection and test procedures.
- 543 (543). **Problems in Athletic Conditioning and Injuries.** (2:1:2) F.Su. Prerequisites: Physical Education 341, 446. Barney
Fee.
- 570 (570). **Teaching Progression in Individual Sports.** (2:4:0) S. Prerequisites: skills classes or equivalent. Jacobson, Soffe
Materials, methods, and teaching progression in individual sports such as archery, badminton, bowling, golf, and tennis.
- 571 (571). **Teaching Progression in Team Sports—Men.** (2:1:2) F. Soffe
Materials, methods, and teaching progression in team sports such as basketball, football, soccer, softball, speedball, volleyball, and wrestling.
- 572 (572). **Teaching Progression in Team Sports.** (2:2:2) F.S. Hirst
Materials, methods, and teaching progression in team sports such as basketball, field hockey, soccer, softball, speedball, and volleyball.
- 574 (674). **Teaching Techniques in Gymnastics.** (2:1:2) F. Bangerter
- 575 (675). **Materials and Methods for Secondary Teachers—Women.** (2:1:2) F. Hirst

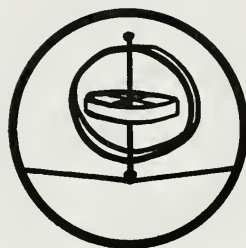
- 588 (584, 586, 587). **Workshop in Modern Dance.** (2:2:6) Su. Prerequisite: competency in modern dance. Chatwin, Holbrook, Oswald
Advanced techniques, composition, improvisation, and accompaniment.

Graduate Courses

- 600 (601, 676). **Curriculum Construction and Supervision in Physical Education.** (3:3:0) S. Hart, Soffe
Curriculum construction for elementary, secondary, and college physical education with techniques of supervision in improving teacher-pupil learning situations.
- 603 (603). **Planning Facilities.** (2:2:0) S. E. R. Kimball
Basic planning for facilities for school and community physical education and recreation programs.
- 621 (621). **History and Philosophy.** (3:3:0) F. Holbrook
Beliefs and practices from early to modern times as related to physical education. Significance and implications of these in view of their effect upon modern educational thinking and cultural uses.
- 641 (641). **Principles and Practices of Physical Reconditioning.** (2:2:0) F. Pre-requisite: Zoology 264. Barney
- 660 (660). **Measurement and Evaluation of Physical and Health Education.** (3:3:0) S. Prerequisite: Physical Education 464 or equivalent. Hart
- 673 (673). **Physical Education in the Elementary School.** (3:3:0) Su. Holbrook
For the teacher, the principal, and the supervisor. Emphasis upon objectives, interrelationships with the curriculum, and the content material used in accomplishing education results.
- 691 (602, 605). **Seminar in Administration.** (3:3:0) S. Hart, Hartvigsen
- 692 (692). **Research Methods in Physical Education.** (3:3:0) F. Hart
- 694 (694). **Seminar in Readings.** (2:2:0) F.S. Staff
- 696 (696). **Seminar in Problems.** (1:1:0) S. Staff
- 698 (698). **Field Project, Master's Degree.** (1-4:0:Arr.) F.S.Su. Staff
- 699 (699). **Thesis, Master's Degree.** (1-4:0:Arr.) F.S.Su. Staff

Associate Professor: Compton (in charge, 228 ESC).
Instructor: Wickes.

Physical Science



(An interdepartmental area only.)

Lower Division Courses

- 101, 102 (101, 102, 103).** Concepts of Physical Science. (3:3:0 ea.) 101—F; 102—S (G-PS) : Hill

This is the unified course in physical science recommended as the most satisfactory way to complete the general requirements in this area for non-science majors. Fundamental concepts of physics, astronomy, chemistry, and geology are covered. Emphasis is given to a penetrating application of the methods of science to a relatively few basic topics rather than to a superficial survey of the subject matter areas.

Both semesters must be taken in order to receive credit which will meet the requirements for general education in the physical sciences. The semesters must be taken in proper sequence but need not be taken the same year.

PHYSICAL SCIENCE EDUCATION

Upper Division Courses

- 377 (377).** Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Instruction 301. Staff
 For course description and fees, see Instruction 377.
- 479 (479).** Secondary Student Teaching. (5-8:1:25-40) F.S. Prerequisite: Physical Science Education 377 or equivalent. Compton, Wickes
 For course description and fees, see Instruction 479.

These courses also count in Physical Science Education:

Instruction 493, 494 (493, 494). Independent Reading. (1-2:0:Arr.)

Instruction 670 (670). Teaching Mathematics and Science in Secondary Schools. (2:2:0)

Physics

Professors: Eastmond (chairman, 288 ESC), Fletcher, Gardner, W. Hales, A. J. Hill, Marshall.

Associate Professors: R. Hales, McNamara.

Assistant Professors: Barnett, Decker, Dixon, Dudley*, Geersten, M. Hill, Hoyt*, Miller, Nelson.



The curriculum of the Department of Physics is designed to provide: (1) training for students majoring in physics; (2) a basic and fundamental background for other physical sciences and engineering; (3) the broadening program required by the biological sciences, pre-medical, pre-dental, and nursing programs; (4) training in the subject matter of physics for prospective teachers of the physical sciences; and (5) information required for the liberal arts and general education.

Students who expect to major in physics, other physical sciences, or engineering should begin their study of physics by electing Physics 211 and 212. Students who expect to study medicine, dentistry, or to major in the fields of biological sciences may elect Physics 201, 202, and 303.

Non-science students may elect with profit Physics 100, 127, 128, 137, and 177, which may be taken without prerequisite and which are organized with the view of giving the student an appreciation of his physical environment.

Students expecting to use physics as a teaching major or minor or as a part of a composite teaching major should refer to the part of this catalog referring to subject matter preparation of secondary school teachers.

Requirements for Physics Major

For special requirements of the College of Physical and Engineering Sciences see that section of this catalog. Reference is made to the Mathematics Department section with respect to mathematics preparation and placement tests. Students majoring in physics have the following courses prescribed: Physics 211, 212, 213, 214, 315, 316, 321, 322, and fourteen or more hours of additional courses selected from the 300, 400, or 500 series in the department; and Math 112, 213, 214, 315, 316 or equivalent.

Suggested Courses for Physics Major

In order to satisfy the general education requirements and at the same time obtain sufficient work in undergraduate physics to make the pursuit of graduate work profitable, the physics major must plan his program carefully.

The following program is recommended for those students whose training in mathematics includes the prerequisites for the courses as outlined. Each student should examine his own mathematical background and the results of the mathematical placement test taken at the time of registration and then make any necessary adjustments in this basic program with the advice of his counselor.

Freshman Year			Junior Year		
	F	S		F	S
Math 111, 112	5	5	Math 315, 316	3	3
Chem 111, 112	4	3	Physics 315, 341	3	4
Religion	2	2	Physics 316	2	
English	3	3	Physics 321, 322	4	4
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Religion	2	2
Health 130		2	Electives	4	5
Electives	3	3			
	<hr/>	<hr/>		<hr/>	<hr/>
	17½	18½		18	18
Sophomore Year			Senior Year		
	F	S		F	S
Math 213, 214	5	5	Math 435	3	
Physics 211, 213	4	4	Physics 342, 441	4	4
Physics 212, 214	1	1	Physics 431, 471	3	4
Religion	2	2	Physics 551, 552 (or 437, 381, 591)	3	3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Religion	2	2
Language	5	5	Electives	3	5
	<hr/>	<hr/>		<hr/>	<hr/>
	17½	17½		18	18

Note: Of the general requirements, religion, English composition, physical education, health, and 3 hours of humanities and aesthetics (satisfied by 10 hours language) are specifically listed in this program and, of course, physical science is met automatically. This leaves 19 hours in general requirements to include in the 23 hours available for "electives."

This program includes physics credit in excess of the minimum requirements stated above but is recommended to provide satisfactory preparation for pursuit of work toward graduate degrees in physics.

Lower Division Courses

- 100 (101, 102, 103, or 104). Essentials of Physics. (3:3:0) F.S. Home Study**
also. (G-PS) **Staff**
An introductory course designed for students not majoring in the physical sciences. Basic concepts are treated from a descriptive rather than mathematical point of view.
- 105, 106 (105, 106, 107). Technical Physics. (3:2:3 ea.) F.S. (G-PS) Barnett**
Introductory course in applied physics with special emphasis placed on industrial and technical applications. Limited to study of mechanics, heat, light, and sound.
- 127 (127). Descriptive Astronomy—"The Solar System." (3:3:0) F.S.Su. Home Study**
also. (G-PS) **Staff**
A non-mathematical presentation of our knowledge of the solar system. Frequent use is made of the observatory and planetarium.
- 128 (128). Descriptive Astronomy—"The Stellar System." (3:3:0) F.S. (G-PS)**
McNamara
A non-mathematical presentation of our knowledge of the content and history of the universe. Physics 127 is not a prerequisite.
- 137 (137). Weather and Climate. (3:3:0) F.S.Su. Home Study**
also. (G-PS) **W. Hales**
Study of the earth's atmosphere and problems associated with climate and weather forecasting.
- 177 (177). Physics of Light and Photography. (3:2:3) F.S.Su. Home Study**
also. (G-PS) **W. Hales**
Study of fundamentals of light phenomena with applications to photo-

graphy.

- 201, 202 (111, 112, 113). **General College Physics.** (4:3:3) F.S. (G-PS) Pre-requisite: Math 111 or equivalent. Miller
A general course with laboratory for students in pre-medical, pre-dental, and biological science programs.
- 211, 213 (211, 212, 213). **General Physics: Classical.** (4:4:0 ea.) F.S.Su. (G-PS) Prerequisites: Math 112; completion of or concurrent registration in Math 213 (or 214); and for physics, chemistry, and engineering majors, completion of or concurrent registration in Physics 212 (or 214) Staff
Mechanics, heat, sound, light, electricity, and magnetism, for physical science and engineering majors. This course is a prerequisite for all specialized courses in physics.
- 212, 214 (211, 212, 213). **General Physics Laboratory.** (1:0:3 ea.) F.S.Su. (G-PS) Prerequisite: completion of or concurrent registration in Physics 211 (or 213). Staff
Experimental work to parallel Physics 211 (or 213).
- 300 (301). **History and Philosophy of Physics.** (2:2:0) S.Su. Prerequisites: Physics 211, 213, or 201, 202 with consent of instructor. Nielson
Historical background of physical science, emphasizing the development and significance of important concepts, methods, and theories.
- 303 (351, 352). **Survey of Atomic and Nuclear Physics.** (3:3:0) S.Su. Prerequisites: Physics 201, 202 (or 211, 213). Primarily for non-physical science majors. Staff
Elementary particle and radiation physics including atomic structure, spectra, X-rays, nuclear structure, nuclear processes and applications.
- 315 (351, 352, 353). **General Physics: Atomic and Nuclear.** (3:3:0) F.S. Prerequisite: Physics 211, 213. Staff
Fundamental particles, atomic and molecular structure, Bohr theory, spectra, X-rays, quantum effects, special relativity radioactivity, nuclear forces and reactions.
- 316 (351, 352, 353). **Atomic and Nuclear Physics Laboratory.** (2:1:4) F. Prerequisite: completion of or concurrent registration in Physics 315. Staff
Required of all physics majors. Experimental work in particle and radiation physics.
- 321, 322 (321, 322, 323). **Mechanics.** (4:4:0 ea.) F.S. Prerequisites: Physics 211, 213. Nelson
Methods of classical mechanics applied to equilibrium, particle motion, central force, small oscillations, conservation principles, and rigid body dynamics, with an introduction to Lagrange's equations.
- 341, 342 (341, 342, 343). **Electricity and Magnetism.** (4:3:3 ea.) F.S. Prerequisites: Physics 211, 213; Math 315 or consent of instructor. Marshall
Electrostatics, D.C. and A.C. circuit theory, capacitors and inductors, dielectrics, magnetism, electromagnetism, and introduction to Maxwell's equations.
- 381 (New). **Introductory Solid State Physics.** (3:3:0) Arr. Prerequisites: Physics 211, 213, 315. Decker
The crystalline state, lattice vibrations and specific heats, dislocation theory, dielectrics, free electron theory, band theory, conductivity, semiconductors, magnetism.
- 431 (331, 332, 333). **Thermodynamics and Kinetic Theory.** (3:3:0) F. Prerequisites: Physics 211, 213. M. Hill
Classical thermodynamics with applications, introduction to kinetic theory, and classical and quantum statistical mechanics.

- 437 (337, 338, 339). Meteorology.** (3:3:2) S. Prerequisite: Physics 431. W. Hales
Study of physical influences on weather and climate with emphasis on thermodynamics and hydrodynamics of the atmosphere. Weather analysis and forecasting by means of synoptic charts.
- 441 (441, 442, 443). Electronics for Physicists.** (4:3:3) S. Prerequisite: Physics 342. Dixon
Fundamental concepts of electronics and basic circuitry with emphasis on the tools needed for specialized research in a variety of fields of physics.
- 471 (371, 372, 373). Optics and Electromagnetic Theory.** (4:3:3) S. Prerequisites: Physics 211, 213; Math 315 or consent of instructor. Barnett
Propagation reflection, refraction interference, and diffraction of electromagnetic waves.

Advanced Undergraduate or Graduate Courses

- 511 (511, 512, 513). Introduction to Theoretical Physics.** (3:3:0) Su. Prerequisites: Math 315, 316. Decker
Introduction to the basic principles of physics with emphasis on their mathematical formulation. Applications principally in mechanics and electrodynamics.
- 527, 528 (527, 528, 529). Introduction to Astrophysics.** (3:3:0 ea.) F.S. Offered in 1961-62 and alternate years. McNamara
The physics of stellar atmospheres.
- 551 (551, 552). Elements of Quantum Theory.** (3:3:0) F. Prerequisites: Physics 315; Math 316. Staff
Basic course in modern theory of radiation and particle physics including elementary treatments of theory of relativity; quantum mechanics with spectroscopic applications; quantum statistics; solids.
- 552 (552, 553). The Atomic Nucleus.** (3:3:0) S. Prerequisite: Physics 551. Staff
Basic course in nuclear physics including description of nuclear properties; scattering theory; nuclear reactions; elementary theory of the nucleus.
- 561, 562 (561, 562, 563). Fundamentals of Acoustics.** (3:3:0 ea.) F.S. Offered in 1960-61 and alternate years. Fletcher
Vibrating systems, transmission phenomena, theory of acoustical radiators, and applications of acoustics.
- 563, 564 (564, 565, 566). Acoustical Measurements.** (2:2:0) F.S. Offered in 1960-61 and alternate years. Prerequisite: completion of or concurrent registration in Physics 561, 562. Geersten
Selected experiments in acoustics.
- 591 (394, 696, 697, 698). Techniques in Experimental Physics.** (3:2:3) S. Staff
Modern methods in experimental physics with experience in basic shop and laboratory techniques applicable in research.

Graduate Courses

- 621 (621, 622). Dynamics.** (3:3:0) F. Prerequisite: Physics 322. Staff
- 622 (623). Theory of Relativity.** (3:3:0) S. Prerequisite: Physics 621. Staff
- 627, 628 (627, 628, 629). Advanced Topics in Astrophysics.** (3:3:0 ea.) F.S. Offered in 1960-61 and alternate years. Prerequisite: consent of instructor. McNamara
- 631 (631, 632). Advanced Thermodynamics and Kinetic Theory.** (3:3:0) F. Offered in 1961-62 and alternate years. Staff

- 632 (633). **Statistical Mechanics.** (3:3:0) S. Offered in 1961-62 and alternate years. Staff
- 641, 642 (641, 642, 643). **Mathematical Theory of Electricity and Magnetism.** (3:3:0 ea.) F.S. Prerequisites: Physics 342. Nelson
- 651, 652 (657, 658, 659). **Quantum Mechanics.** (3:3:0 ea.) F.S. Offered in 1960-61 and alternate years. Prerequisites: Physics 551, 621; Math 618. Gardner
- 655, 656 (651, 652, 653). **Nuclear Physics.** (3:3:0 ea.) F.S. Offered in 1961-62 and alternate years. Prerequisite: Physics 552. Staff
- 671 (671, 672). **Atomic Spectroscopy.** (3:2:3) F. Offered in 1961-62 and alternate years. Prerequisite: Physics 551 or consent of instructor. Eastmond
- 672 (673, 771). **Molecular Spectroscopy.** (3:2:3) S. Offered in 1961-62 and alternate years. Prerequisite: Physics 671. Eastmond
- 681, 682 (681, 682, 683). **Modern Theory of the Solid State.** (3:3:0 ea.) F.S. Offered 1960-61 and alternate years. Prerequisites: Physics 431, 551. Decker
- 691, 692 (691, 692, 693). **Seminar.** (1:1:0) F.S. Staff
- 697 (New). **Research for Master's Degree.** (Arr.) Arr. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) Arr. Staff
- 741 (741, 742, 743). **Advanced Topics in Electron Physics.** (2:2:0) F.S. Prerequisite: consent of instructor. R. Hales
Course content varies from year to year. Examples of topics that might be treated are vacuum electronics, plasma physics, thermonuclear processes, etc.
- 751 (757, 758, 759). **Advanced Quantum Theory.** (3:3:0) F. Offered in 1961-62 and alternate years. Prerequisite: Physics 652. Staff
- 755 (New). **Advanced Topics in Nuclear Physics.** (3:3:0) F.S. Prerequisite: consent of instructor. Staff
Course content varies from year to year. Examples of topics that might be treated are study of particles (mesons, hyperons), high energy interactions, cosmic rays, etc.
- 771 (772, 773). **Microwave Spectroscopy.** (3:3:0) F. Offered in 1960-61 and alternate years. Prerequisite: Physics 672. Staff
- 791, 792 (791, 792, 793). **Seminar.** (1:1:0) F.S. Staff
- 797 (798). **Research for Ph.D. Degree.** (Arr.) Arr. Staff
- 799 (799). **Dissertation for Ph.D. Degree.** (Arr.) Arr. Staff

Professors: Grow (chairman, 358 McKay),
Jensen (emeritus).

**Associate
Professors:** Caldwell, Reeder.

**Assistant
Professors:** Jones*, Mabey, Melville.

Political Science



Requirements for a Major in Political Science

A major in political science requires the satisfactory completion of at least 30 hours of work in this field, distributed as follows:

Required courses: Political Science 110, 111, 112 or 115, and 300; or Political Science 210, 212, and 300.

Elective courses: At least one course from each of the following six main areas plus additional courses to a minimum total of 30 hours:

1. Political Theory—301, 303, 590, 601, 605
2. Politics—310, 320, 322, 610
3. Public Administration—330, 532, 535, 593, 630
4. Comparative Government—350, 352, 355, 557, 560, 650, 651
5. International Law and Relations—370, 565, 571, 575, 665-675
6. Public Law—391, 396, 397, 590, 593, 595, 690-696

It is recommended that the major in political science include History 120 and 121 in his basic program.

Political science lower division courses should be completed by the end of the sophomore year. Courses and sequences other than those required should be selected in consultation with the department chairman, who will also advise the student in the selection of his minor field.

A comprehensive examination is given to all majors in the second quarter of the senior year.

Political science is designated as a "composite major" in social science. (See College of Education.)

American History and Government Requirement

In satisfying this requirement for graduation, the student majoring in political science is advised to take both History 120 and 121. If this cannot be arranged, he should take at least one of the following combinations:

- Political Science 110 and History 120.
- Political Science 110 and History 121
- Political Science 110 and History 274.

History 170 is **not** recommended for majors in political science as the means of fulfilling this graduation requirement.

Lower Division Courses

- 105 (105). **Current Affairs.** (1:1:0) F.S. (G-SS) Staff
Survey of current events with special attention to historical background and present implications in economics, sociology, politics, and international relations.
- 110 (110). **American Government.** (3:3:0) F.S. Home Study also. (G-SS) Staff
Origin and growth of federal constitution; constitutional rights of citizens; study of executive, legislative, and judicial departments.
- 111 (111). **State and Local Governments.** (3:3:0) F.S. (G-SS) Staff
Relation of states to the national government; functions and powers of states; types of municipal government and their growth and operation.
- 112 (112). **Foreign Governments.** (3:3:0) F. Home Study also. (G-SS) Staff
General study of selected European, Asiatic, and Latin-American governments; their development, organization, administration, and politics.
- 115 (115). **Introduction to International Relations.** (3:3:0) S. Home Study also. (G-SS) Staff
Survey of basic forces, practices, and institutions with special attention to foreign policies of major powers and problem areas in international politics.
- 210 (New). **American System of Government.** (5:5:0) F.S. (G-SS) Limited to participants in the Honors program. Staff
A study of American system of government including operations of federal, state, and local governmental structures.
- 212 (New). **Comparative Governments and International Relations.** (5:5:0) F. S. (G-SS) Limited to participants in the Honors program. Staff
A study of selected foreign governments and introductions to international relations.

Upper Division Courses

- 300 (300, 490). **Research and Writing in Political Science.** (3:2:1) F.S. Caldwell
Sources, materials, and methods of research and writing in political science. Required of all majors in political science. Should be taken sophomore or junior year.
- 301 (301). **The Development of Political Thought.** (3:3:0) F. Caldwell
History of political thought. Socrates, Plato, Aristotle, Epicureans, Cynics, Stoics, Cicero. Early and medieval Christian thinkers: Machiavelli, Hobbes, and others, to Locke.
- 303 (303). **Modern Western Political Thought.** (3:3:0) S. Caldwell
Modern and contemporary political thought, including development and criticism of liberal, socialist, communist, fascist, and conservative doctrines.
- 306 (306). **American Political Thought.** (2:2:0) S. Jensen
American political ideas from the colonial period to the present, with an analysis of their influence upon development of American history and government.
- 310 (310, 515). **Political Parties, Pressure Groups and Public Opinion in the U.S.** (3:3:0) F. Grow
Organization and methods of action of political parties and pressure groups. The formulation and determination of public opinion.
- 320 (320). **American Legislative System.** (2:2:0) S. Grow
Structure and organization of congressional, state, and city legislative

bodies; nature of business transacted; influences acting upon such bodies; parliamentary procedure.

- 322 (322). **Contemporary Problems.** (2:2:0) F. Staff
Selected topics which involve the formulation of American public policy in the areas of economics, sociology, politics, and international relations.
- 330 (330). **Introduction to Public Administration.** (3:3:0) F.S. Grow
Organization and operation of government. Relationship of administration to other branches of government; types of control over administration; central and local government.
- 350 (350). **Government of the Soviet Union, and Eastern Europe.** (3:3:0) F. Mabey
Governments of the U.S.S.R. and other eastern European countries, their political institutions and philosophies.
- 352 (362). **Government and Politics of East Asia.** (3:3:0) S. Hyer
Analysis of traditional Asian governmental institutions in their historical context with emphasis on the structure and dynamics of modern Far Eastern politics.
- 355 (355, 556). **Government and Politics of United Kingdom and the Commonwealth.** (3:3:0) S. Mabey
Development of the British Constitution; examination of growth of cabinet government; the Crown, Parliament, Civil Service; local and government administration; English judicial system, the commonwealth.
- 370 (370). **International Relations.** (3:3:0) F. Staff
International relations in the contemporary world. Development of the modern state system, problems of international relations, and emergence of international law and government.
- 396 (396). **Constitutional Law of the U.S. I.** (3:3:0) F. Prerequisite: Political Science 110. Reeder
American Federal System.
- 397 (397). **Constitutional Law of the U.S. II.** (3:3:0) S. Reeder
Fundamental rights and immunities.
- 498 (498). **Directed Readings in Political Science.** (1-2:0:1-2) F.S. Staff
Advanced Undergraduate or Graduate Courses
- 532 (532). **Personnel Administration.** (2:2:0) F. Staff
Treatment of processes, procedures, controls, and problems of personnel and fiscal administration in executive branches of federal, state, and local governments.
- 535 (335, 635). **Municipal Government and Administration.** (3:3:0) S. Grow
Growth, development, and organization of cities; relationship of cities to other governments; problems and activities of modern cities.
- 557 (557). **Government and History of Canada.** (3:3:0) S. Offered in 1961-62 and alternate years. Staff
- 560 (560). **Governments of Latin-America.** (2:2:0) S. Offered 1960-61 and alternate years. Staff
Growth and political development of countries in the Latin-American area, with special reference to Argentina, Brazil, and Mexico.
- 565 (565). **International Organization.** (3:3:0) F. Staff
History and structure of international organizations, with particular emphasis on the United Nations organization and its specialized agencies.
- 571 (571). **Development of American Foreign Policy.** (3:3:0) S. Staff
Role of the United States in international affairs from colonial times to the present.

- 575 (375, 376). **International Law.** (5:5:0) S. Reeder
Nature and function of international law; recognition, succession, jurisdiction, rights, and immunities of states; nationality and jurisdiction over nationals.
- 590 (590). **Jurisprudence.** (3:3:0) S. Offered in 1960-61 and alternate years. Caldwell
- 591 (391). **Anglo-American Legal Institutions.** (3:3:0) S. Caldwell
Origins and development of common law and equity, the writ system, court systems, basic legal terms, the anatomy of a law suit.
Problem approach to ancient and modern legal philosophies, with special attention given the nature of justice and the relation of law to morality.
- 593 (593). **Administrative Law of the U.S.** (3:3:0) F. Offered in 1959-60 and alternate years. Reeder
Legal setting for administrative bodies and judicial control of administrative action. Cases in administrative law read and discussed.
- 595 (306, 595). **American Constitutional History.** (3:3:0) F. Prerequisite: Political Science 110. Jensen
History and development of the Constitution; study of its fundamental provisions, their interpretation and application in the functioning of the American system of government.

Graduate Courses

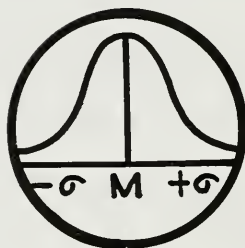
- 601 (601). **Modern Political Philosophy.** (2:2:0) S. Offered in 1960-61 and alternate years. Caldwell
- 605 (605). **Roots of American Democracy.** (2:2:0) F. Offered in 1959-60 and alternate years. Caldwell
- 610 (610). **American Political Problems.** (2:2:0) F. Offered in 1959-60 and alternate years. Grow
- 630 (630). **Comparative Public Administration.** (3:3:0) S. Offered in 1960-61 and alternate years. Grow
- 650 (650). **Democratic Governments.** (2:2:0) F. Offered in 1960-61 and alternate years. Staff
- 651 (651). **Totalitarian Governments.** (2:2:0) S. Offered in 1961-62 and alternate years. Mabey
- 665 (665). **International Organization in the 20th Century.** (2:2:0) S. Offered in 1960-61 and alternate years. Staff
- 670 (670). **International Relations in the 20th Century.** (2:2:0) S. Offered in 1961-62 and alternate years. Staff
- 675 (675). **Modern International Law.** (2:2:0) S. Offered in 1960-61 and alternate years. Reeder
- 690 (690). **Supreme Court of the United States.** (2:2:0) F. Offered in 1961-62 and alternate years. Caldwell
- 696 (696). **Constitutional Law in the 20th Century.** (2:2:0) F. Offered in 1961-62 and alternate years. Reeder
- 698 (698). **Directed Readings in Political Science.** (1-2:0:1-2) F.S. Staff
- 699 (699). **Thesis for Master's Degree.** (2-4:0:2-4) F.S. Staff

The following also count for Political Science credit:

- Geography 441 (584). **Political Geography.**
Geography 522 (565). **Urban Geography.**
Economics 575 (575). **Government Finance.**
Economics 576 (576). **Government and Business.**

Professor: Allen (chairman, 1230 SFLC).
Associate Professors: Hardy, Howell, Robinson, Taylor.
Assistant Professor: Moffitt.

Psychology



The study of psychology should be of value to the general student in the following ways: (1) provide him with a scientific understanding, for its own sake, of behavior and experience; (2) develop insights into his own behavior and that of others, useful in meeting everyday problems of life; (3) assist in cultivating more careful habits of thought concerning human behavior; and (4) enhance his appreciation of people.

The field of psychology offers careers in college teaching (and high school to a lesser degree); various counseling services in elementary and secondary schools; clinical service in clinics, institutions, and private practice; various psychological services in business, industry and government; research in human engineering and many other areas. Most professional fields of psychology require advanced degrees, but there are a limited number of opportunities for those with bachelor's degrees, such as high school teaching, probation and junior level social work, employment interviewing and testing, and junior level psychological testing (psychometry).

The study of psychology also has particular value to students preparing for teaching and counseling of any kind, social work, parenthood, law, medicine, various branches of business, and public administration. Psychology may also be of value in any other specialization concerned with man and his works.

For a major in psychology, a total of 30 hours is required, including Psychology 111, 360, 365, 370, 374, 378, and one seminar. Courses listed as Soc-Psych (Social-Psychology) may be used for credit either in Sociology or Psychology, but not in both. A maximum of 6 of the 30 hours may be chosen from a selected list of courses in other departments, with the consent of the student's adviser. Students planning to terminate with a bachelor's degree should choose a minor area which will broaden their employment opportunities. Suggested areas are secretarial work, various branches of business, recreation, and social work.

For a minor in psychology, the following program is recommended: Psychology 111, 311, or any two of Psychology 360, 365, 378; and the remaining 5 or 8 hours chosen to meet the particular needs of the student.

The following graduate programs are also offered: a master's degree in general psychology; a master's degree for school psychologists; a Ph.D. in counseling psychology, given in collaboration with the Department of Educational Research and Services; a Ph.D. in clinical psychology; and a Ph.D. in general psychology. See the Graduate Catalogue for details on these programs.

Lower Division Courses

- 10 (101). **Effective Study.** (0:2:0) F.S. Staff
 Budgeting time, notemaking, memorizing, improvement of reading, use of library, etc. Open to lower division students only, except by consent of instructor. (Extensive help with reading skills is offered by the Counseling Service. A non-credit course in developmental reading also is available through Adult Education and Extension Services.)
- 111 (111). **General Psychology.** (3:3:0) F.S.Su. (G-SS) Staff
 Foundation course covering essentials of modern scientific psychology. Prerequisite for most upper division psychology classes.
- 185 (185). **Physiological Psychology.** (2:2:0) F. Prerequisite: Psychology 111. Staff
 Examination of the physiological foundations of behavior and their relation to behavior phenomena. Designed as a second course in psychology to follow Psychology 111.
- 205 (205). **Applied Psychology.** (2:2:0) F.S. Prerequisite: Psychology 111. Staff
 Survey of applications of psychological principles and techniques in the fields of business, industry, advertising and selling, legal procedures, medicine, and education.
- 257 (257). **(Soc-Psych) Group Relations and Leadership.** (2:2:2) F.S. Prerequisite: Psychology 111 or Sociology 111. Dyer, Hardy, Moffitt
 This course may be used for credit either in psychology or sociology, but not in both. Designed to help the individual participate effectively in groups and to assist leaders to become efficient in role performance.

Upper Division Courses

- 311 (311). **Advanced General Psychology.** (3:3:0) F.S. Prerequisite: Psychology 111. Staff
 Intensive survey of the general field with special emphasis on topics not covered in detail in Psychology 111. Intended for minors or other advanced students not planning to take Psychology 360, 365, and 378.
- 320 (320). **Psychology of Childhood.** (2:2:0) F.S. (+G-SS) Prerequisite: Psychology 111. Allen, Howell, Taylor
 Critical presentation of research on physical, mental, emotional, and social development of the child and his interests, values, and motivations. Primarily for majors and minors.
- 321 (321). **Psychology of Adolescence.** (2:2:0) F.S. (+G-SS) Prerequisite: Psychology 111. Howell, Taylor
 Development and maturation during adolescence, with special attention to research methodology. Programs of sex-social adjustment, independence, vocational adjustment, and emotional and social maturing in our society.
- 322 (322). **Psychology of Adult Life.** (2:2:0) S. (+G-SS) Prerequisite: Psychology 111. Taylor
 Physiological, intellectual, personality, and motivational changes associated with adulthood; geriatric and gerontological emphasis.
- 330 (330). **Industrial Psychology.** (2:2:0) F.S. Prerequisite: Psychology 111. Hardy, Moffitt
 Special application of psychology in human relations program for management. Important issues in relation to motivation, morale, safety, efficiency, etc.
- 336 (337, 338). **Personnel Psychology: Theory and Practice.** (4:2:6) F.S. Prerequisite: Psychology 111. Lee
 Selection, application, and interpretation of psychological tests; job an-

alysis; personality problems of the worker; projects in employment and placement, personnel interviewing, and employee morale questionnaires.

- 340 (340). **Mental Hygiene.** (2:2:0) F.S. Prerequisite: Psychology 111. **Staff**
 Intended to yield insight into prevention and amelioration of mental and personal difficulties. Important for prospective parents, teachers, and social workers.
- 350 (350). **(Soc-Psych) Introduction to Social Psychology.** (3:3:0) F.S. (†G-SS) Prerequisite: Psychology 111 or Sociology 111. **Dyer, Hardy, Larsen**
 May be used for credit either in psychology or sociology, but not in both. Nature of social influence; socialization; concepts of norm, role status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.
- 360 (360). **Cognitive Processes.** (3:3:0) F.S. Prerequisite: Psychology 111. **Allen**
 Core course for majors and other advanced students. Sensation; perception; thinking; relationships to other psychological processes.
- 365 (365). **Motivation.** (3:3:0) F.S. Prerequisite: Psychology 111. **Hardy, Moffitt**
 Core course for majors and other advanced students. Theories of motivation; research methods and results; bases of motivation; emotions and motivation; measuring motivation; motivation as related to learning and cognitive processes; practical implications.
- 370 (370). **Elementary Statistics.** (4:4:0) F.S. Prerequisite: Psychology 111. **Hardy, Howell, Moffitt**
 Introduction to descriptive and inferential statistics. Measures of central tendency, variability, correlation; sampling theory, tests of significance; reliability and validity.
- 374 (374). **Experimental Psychology.** (3:1:4) F.S. Prerequisites: Psychology 111, 370 or equivalent. **Staff**
 Psychological methodology and its application to fields of sensation, perception, emotion, learning, motivation, and individual differences; conducting and reporting of representative experiments.
- 378 (378). **Abilities.** (3:3:0) F.S. Prerequisite: Psychology 111. **Howell, Taylor**
 Core course for majors, minors, and other advanced students. Statistical methodology of assessing and interpreting abilities; tests of abilities and their purposes; group differences of abilities.
- 445 (445). **Exceptional Children.** (2:2:0) S. Prerequisite: Psychology 111. **Allen, Taylor**
 Diagnosis of exceptionalities and their psychological significance; gifted, mentally retarded, physically and emotionally handicapped children; treatment measures. Survey course for students interested in management of children.
- 454 (554). **Psychology of Religion.** (2:2:0) S. (†G-R) Prerequisite: Psychology 111. **Allen**
 Classification of religious behavior and experience; sources of religious motivation; religion and the growth process; personality and religious choices; mental hygiene assets and hazards in religion.
- 491, 492, 493 (491, 492, 493). **Psychology Seminar.** (1:1:0) F.S.Su. **Staff**
 One seminar required of psychology majors. Reports and discussions of special topics and current psychological literature.
- 495 (495). **Independent Readings.** (1-2:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor. **Staff**

Advanced Undergraduate or Graduate Courses

- 510 (510). **The Psychology of Aesthetics.** (2:2:0) S. Prerequisite: Psychology 111. Taylor
The arts of perceptual stimuli; the nature of artistic creativity; psychological symbolism expressed in the arts; the artist as a person.
- 540 (540, 440). **Abnormal Psychology.** (3:3:2) S.Su. Prerequisites: Psychology 111 and consent of instructor. Allen
Dynamics of maladjustment; implications for normal behavior; review of major and minor psychological disorders; modern therapeutic procedures; field work at Utah State Hospital.
- 550 (550). **Psychology of Personality.** (3:3:0) F.Su. Prerequisites: Psychology 111 and five additional hours in psychology. Moffitt
Major theories of personality; problems of traits, types, and organization; interaction of biological, psychological, and cultural determinants; measurement of personality.
- 552 (552). **(Soc-Psych) Personality: Culture and Society.** (3:3:0) S. Prerequisite: 12 hours of psychology or sociology and anthropology. Hardy
May be used for credit either in anthropology, psychology or sociology, but not in more than one. Study of the role of culture and society in the formation and functioning of personality.
- 555 (555). **(Soc-Psych) Group Dynamics.** (2:2:0) F. Prerequisite: Sociology-Psychology 350. Hardy
May be used for credit either in psychology or sociology, but not in both. Research and theories in group dynamics.
- 560 (560). **Psychology of Learning.** (3:3:0) S. Prerequisites: Psychology 111, and 5 additional hours in psychology. Allen, Taylor
Current theories of learning; persistent problems; representative experiments; types of learning; principles of effective learning; implications for clinical, educational, and social fields.
- 574 (574). **Advanced Experimental Psychology.** (2:1:5) S. Prerequisites: Psychology 111, 374, or equivalent. Allen
Principles of instrumentation; varieties of experimental designs; nature of experimental controls. Gives experience in planning, conducting and reporting original exploratory experiments.
- 580 (580). **Comparative Psychology.** (3:3:0) F. Prerequisite: Psychology 111. Staff
Survey of methods and results of research on animal learning, innate behavior, motivation, individual differences, social behavior, abnormal behavior; correlation of structure with function.
- 585 (585). **Advanced Physiological Psychology.** (3:3:0) S. Prerequisite: Psychology 111. Staff
Critical study of physiological processes and psychological functions; physiological mechanisms underlying behavioral processes, including sensation, emotion, sleep and activity, motivation, and learning.
- 598 (598). **Independent Research.** (1-3:0:2-6) F.S. Staff

Graduate Courses

- 606 (New). **Psychology of Music.** (3:3:0) S. Prerequisites: Psychology 111 and Physics 111 or equivalent. Taylor
Designed for and required of graduate students majoring in music education. Critical examination of psychophysical functions in music; measurement of auditory thresholds; problem of absolute pitch; time judgments as related to music; nature and measurements of sensory-motor skills; measurement of musical aptitude; personality and emotional factors as related

to musical production and appreciation; recent applications of music in therapy; musical creativity as a psychological problem; representative research problems, methods, and results.

- 610 (610, 612). **Systematic Psychology I: History and Contemporary Thought.** (4:4:0) F. Prerequisite: undergraduate core courses. Howell
- 611 (611, 612). **Systematic Psychology II: Psychological Theory.** (4:4:0) S. Prerequisite: Psychology 610. Taylor
- 626 (626). **Mental Deficiency.** (2:2:0) F. Prerequisite: Psychology 378 or equivalent. Allen
- 627 (627). **Gifted Children.** (1:1:0) S. Prerequisite: Psychology 378. Staff
- 628 (628). **Psychology of the Physically Handicapped.** (2:2:0) F. Prerequisite: Psychology 378. Taylor
- 640 (640, 641). **Individual Test Practice.** (5:1:8) S. Prerequisite: Psychology 378. Howell, Taylor
- 642 (642). **Special Clinical Testing.** (2:0:6) S. Prerequisite: Psychology 640. Howell, Taylor.
- 651 (651). **Problems in Psychopathology.** (2:2:0) S. Prerequisites: Psychology 540 and consent of instructor. Allen, Howell
- 655 (655). **Psychosomatic Problems.** (2:2:0) F. Prerequisites: Psychology 540 and consent of instructor. Trunnell
- 670 (670, 671). **Advanced Statistics I.** (3:3:0) F. Prerequisite: Psychology 370. Howell, Moffitt
- 671 (671, 672). **Advanced Statistics II.** (3:3:0) S. Prerequisite: Psychology 670. Howell, Moffitt
- 675 (675). **Experimental Psychodynamics.** (2:1:4) F. Prerequisites: undergraduate core courses and consent of instructor. Staff
- 680 (680). **Introduction to Psychotherapy.** (3:3:0) S. Prerequisites: undergraduate core courses and consent of instructor. Robinson
- 690 (690). **Seminar: Research Problems.** (1:1:0) F. Staff
- 695 (695). **Independent Readings.** (1-2:Arr.:Arr.) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (1-4:Arr.:Arr.) F.S.Su. Staff
- 720 (720). **Seminar: Clinical Problems of Genetic Psychology.** (1:1:0) S. Prerequisite: consent of instructor. Howell, Taylor
- 740 (740). **Introduction to Projective Techniques.** (2:2:0) F. Prerequisite: Psychology 640. Taylor
- 741 (741). **Rorschach Test Practice.** (3:1:8) S. Prerequisite: Psychology 740. Howell, Robinson, Taylor
- 743 (743). **Practicum: Diagnostic Testing.** (2:0:6) S. Prerequisite: Psychology 741. Staff
- 747 (747). **Internship in Clinical Testing.** (2-4:1:5-11) F.S.Su. Prerequisite: Psychology 743. Staff
- 748 (748). **Internship in Clinical Testing.** (2-4:1:5-11) F.S.Su. Prerequisite: Psychology 747. Staff
Continuation of Psychology 747.

- 750 (750). Seminar: Personality. (1:1:0) F. Prerequisite: consent of instructor.
Staff
- 760 (760). Seminar: Learning. (1:1:0) S. Prerequisite: consent of instructor.
Staff
- 780 (780). Individual Psychotherapy: Practicum. (3:1:8) F.Su. Prerequisite:
Psychology 680. Staff
- 781 (781). Individual Psychotherapy: Practicum. (3:1:8) S. Staff
Continuation of Psychology 780.
- 782 (782). Group Therapy: Theory and Practice. (3:1:8) S. Prerequisite: Psych.
680. Staff
- 783 (783). Play Therapy: Theory and Practice. (3:3:3) S. Prerequisites: under-
graduate core courses and consent of instructor. Staff
- 792 (New). Seminar: Social Psychology. (2:2:0) S. Prerequisite: consent of
instructor, Sociology 350 or Psychology 350. Staff
- 799 (799). Ph.D. Dissertation. (Arr.) F.S.Su. Staff

Range Management

(See courses in Botany.)

Professors: I. Heaton (chairman, 236 SFH).

Assistant

Professors: A. Heaton, Watters.

Instructors: Hafen, Jensen.

Recreation



A student interested in this field may complete courses for a recreation major, a minor, or a composite major. He may also take specified recreation courses to fill certain religion requirements, and he may register for recreation courses on an elective basis.

Recreation Major

A student majoring in recreation should take the following courses: Recreation 301, 337, 371, 387, 388, 502 or 503, 505, 579; Health 121; Sociology 449; Physical Education 376, 514; Music 201; Youth Leadership 177; one course in crafts and 5 hours from the list of approved electives. Requirements for a composite major are listed in the College of Education section of this catalog under Physical Education. Appropriate substitutions may be made with the consent of the department chairman.

Recreation Minor

Students minoring in recreation should take the following courses: Recreation 301, 337, 371, 387, 388, 505; Physical Education 280; and 2 hours of approved electives.

Seasonal Intramural Participation

Students are encouraged to participate in the following intramural activities on a non-credit basis. These activities are conducted afternoons, evenings, and on Saturdays.

Autumn

Golf
Cross Country Run
(Turkey Trot)
Flag Football
Horseshoes
Tennis
Badminton
Handball
Table Tennis
Volleyball

Winter

Basketball
Paddleball
Bowling
Checkers
Chess
Table Tennis
Boxing
Fencing
Gymnastics
Wrestling
Skiing

Spring
Table Tennis
Badminton
Softball
Handball

Horseshoes
Tennis
Archery
Swimming
Track and Field

Lower Division Course

- 123 (123). Skills and Techniques for Outdoor Recreation. (1:0:3) S. Staff

Upper Division Courses

- 301 (301, 331). Introduction to Recreation. (2:2:0) F.S.Su. I. Heaton
- 337 (537). Philosophy of Recreation. (2:2:0) F.S.Su. (G-HA) I. Heaton
- 371 (371). Planning for Family and Neighborhood Recreation. (2:2:0) S.Su. Holbrook
- 387 (387). Planning for Social Recreation. (2:2:0) F.S.Su. (G-R) Staff
Principles and techniques for planning and conducting social recreational activities.
- 388 (388). Leadership in Church Dance. (2:2:0) F.S.Su. (G-R) Staff
Designed to give experience and training in dance programs for community, school, and particularly church recreation leaders.

Advanced Undergraduate or Graduate Courses

- 502 (502). Camping Education. (2:2:0) Su. Staff
- 503 (503). Administration of School and Community Camps. (2:2:0) S. I. Heaton
Objectives and problems involved in establishing community and school camps. Best practices dealing with location, safety, health, and program of activity are thoroughly analyzed.
- 505 (331, 505). Administration of Community Recreation. (3:3:0) S.Su. I. Heaton
Problems peculiar to the organization and administration of a community recreation program including objectives, legal aspects, facilities, personnel, activities, budgeting, and public relations.
- 579 (579). Directed Leadership in Recreation. (2-6:1:6-18) F.S.Su. Prerequisite: consent of department chairman. I. Heaton
Supervised experience in public and private recreation programs.
- 583 (683). Workshop in Recreation Dance. (2:2:0) S.Su. A. Heaton

Graduate Courses

- 607 (607). The Conduct of Playgrounds. (2:2:0) S.Su. A. Heaton
- 609 (609). The Recreation Program. (2:2:0) F.Su. I. Heaton
- 694 (694). Seminar in Readings. (2:2:0) F.S.Su. I. Heaton
- 696 (696). Seminar in Problems in Recreation. (1:1:0) S. I. Heaton
- 698 (698). Field Projects. (1-4:2-5:0) F.S.Su. I. Heaton
- 699 (699). Thesis for Master's Degree. (1-4:1-5:0) F.S.Su. I. Heaton
- 699 (699). Thesis for Master's Degree. (1-4:1-5:0) F.S.Su. I. Heaton

These courses also count in Recreation:

Art 256 (256). Design in Plastic Art Media. (2:4:0)

Art 263 (263). Design in Crafts. (2:4:0)

Instruction 324 (324). Arts and Crafts for Elementary Teachers. (2:2:1)

Instruction 406 (305, 406). Teaching Materials Laboratory (Audio-Visual Aids). (2:2:1)

Instruction 624 (624). Advanced Arts and Crafts for Elementary Teachers. (2:2:1)

Instruction 626 (626). Arts and Crafts for the Handicapped. (2:2:1)

Instruction 663 (663). Directing Out-of-Class Activities in the Secondary Schools. (2:2:0)

Health Education 121 (121). First Aid. (2:2:0)

Health Education 696 (696). Seminar in Problems. (1:1:0)

H.D.F.R. 210 (210, 211). Child Development. (3:3:1)

Industrial Education 106 (260). Recreational Handicrafts. (2:1:3)

Industrial Education 260 (464). Crafts. (3:2:4)

Industrial Education 360 (466). Crafts. (3:2:4)

Journalism 211 (211). Basic Reporting. (2:1:3)

Music—1 hour in any vocal class.

Music—1 hour in any instrumental class.

Music 201 (301). Baton Technique and Hymnody. (2:2:0)

Music 202 (302). Essentials of Conducting. (2:2:0)

Physical Education—any 4 hours of activity courses numbered from 101 to 286.

Physical Education 376 (376). Physical Education for Teachers of Intermediate Grades. (2:0:4)

Physical Education 514 (314, 604). Organization and Administration of Intramural Sports. (2:2:0)

Physical Education 571 (571). Teaching Progression in Team Sports—Men. (2:1:2)

Physical Education 572 (572). Teaching Progression in Team Sports—Women. (2:1:2)

Physical Education 602. (602, 605). Seminar in Administration. (3:3:0)

Physical Education 603 (603). Planning Facilities. (2:2:0)

Physical Education 692 (692). Research Methods in H.P.E.R. (3:3:0)

Physical Education 696 (696). Seminar in Problems. (1:1:0)

Physics 177 (177). Physics of Light and Photography. (3:2:3)

Political Science 535 (335). Municipal Government and Administration. (3:3:0)

Sociology 257 (357). Group Relations and Leadership. (2:2:0)

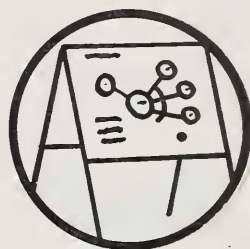
Sociology 383 (383). Juvenile Delinquency. (2:2:0)

Sociology 449 (449). Community Organization, Action and Planning. (2:2:0)

- Sociology 551 (351). Sociology of Recreation. (2:2:0)**
- Speech and Dramatic Arts 305 (103, 305). Discussion and Conference Leadership. (2:3:0)**
- Speech and Dramatic Arts 412 (412). Religious Drama. (2:2:0) (G-R)**
- Youth Leadership 172 (372). Cub Leadership. (2:2:1)**
- Youth Leadership 173 (373). Boy Scout Leadership. (2:2:1)**
- Youth Leadership 174 (374). Explorer Leadership. (2:2:1)**
- Youth Leadership 177 (377). Scouting in the L.D.S. Church. (2:2:1)**
- Youth Leadership 302 (302). Summer Camp Administration. (1:Arr.: full summer)**
- Youth Leadership 491 (391). Conference Planning Technique. (1:1:1)**

Professors: Belnap (chairman, 112 S), Berrett.

Religious Education



An undergraduate major or minor is not offered in this department. A graduate major or minor is offered at the master's level but not at the doctoral level (See section on College of Religious Instruction).

Upper Division Course

- 371 (344). Teaching the Scriptures.** (2:2:0) F.S. Prerequisite: permission of instructor. Anderson
Designed for prospective seminary teachers.

Advanced Undergraduate or Graduate Courses

- 572, 573, 574 (534, 535, 536). Lectures in Theology.** (1:4:0 ea.) Su.
Berrett, Staff

Graduate Courses

- 670 (601). Survey of Religious Education.** (2:2:0) F.S. (2:5:0) Su. Belnap
671, 672 (605, 606). Teaching Religion in Secondary Schools. (2:5:0 ea.)
Su. Not offered this year. Berrett, Staff
675, 676 (609, 610). Teaching Religion in Colleges. (2:5:0 ea.) Su. Not offered
this year. Berrett, Staff
677 (611). Problems of Teaching Religion. (1:3:0) Su. Not offered this year.
Staff
678 (621). Teaching the Old and New Testament. (2:2:0) F.S. (2:5:0) Su.
Staff
679 (622). Teaching L.D.S. Church History and the Book of Mormon. (2:2:0)
S. (2:5:0) Su. Staff
680 (New). Philosophic Problems and Religious Instruction. (1:3:0) Su.
Madsen, Riddle, Yarn
699 (New). Thesis for Master's Degree. (1-4:1-4:0) F.S.Su. Staff

These courses also count in Religious Education:

- E.R.S. 620 (620). Introduction to Counseling Theory and Practice.** (3:3:0)
H.P.R. 681 (651). Seminar: Philosophical Analysis. (2:2:0)
H.P.R. 683 (653). Seminar: Philosophy of Religion. (2:2:0)

Sociology and Anthropology

Professors: Bradford (chairman, 1216A SF-LC), Ballif, Symons.

Associate Professors: Christiansen, Dyer, Empey, Larsen, Smith, Vernon.

Assistant Professors: Payne, Peterson, Sorenson.



SOCIOLOGY

Sociology is one of the social sciences which studies human behavior. Specifically, sociology studies how behavior is affected by the fact that men interact with one another, live in groups, and develop social systems, institutions, roles, statuses, and culture.

Sociology, therefore, has relevance for those planning careers of social work, teaching, counseling, research, professional Scouting, Red Cross work, community planning, and government service.

Suggestions for a Major

Majors in the department are required to take Sociology 111, 112, 320, 397, 491, 504, 505, and to present total sociology credit of 30 hours or more. A maximum of 6 of the 30 hours may be chosen from a selected list of courses in other departments, with consent of the departmental adviser. Courses listed as Soc-Psych (Social Psychology) may be used for credit either in sociology or psychology, but not in both.

Sociology is one of the subjects comprising the composite major in social science designed for prospective teachers. See course in social science listed under the College of Education.

Suggestions for a Minor

For students minoring in sociology the following program is recommended: Sociology 111 and 112, with remaining hours to be recommended according to the needs of the student.

Lower Division Courses

- 111 (111). Introductory Sociology.** (3:3:0) F.S.Su. Home Study also. (G-SS) Staff

Foundation course designed to give groundwork for all sociological study. Presents general view of how social organization affects human behavior.

- 112 (112). Social Disorganization.** (3:3:0) F.S.Su. Home Study also. (G-SS) Staff

Analyzes forces within society which produce disorganization. Considers specific problems such as crime, race relations, mental health, divorce,

alcoholism, and delinquency.

- 125 (125). Applied Sociology.** (2:2:0) F.S.Su. (G-SS) Staff
Presents applications of sociological principles and teachings in such fields as teaching, business and industry, nursing, military life, and medicine.
- 257 (257). (Soc-Psych) Group Relations and Leadership.** (2:2:0) F.S.Su. Home Study also. Staff
Designed to help the individual participate effectively in group life and to assist leaders to become efficient in role performance.

Upper Division Courses

- 300, 301 (New). People and Cultures Around the World I, II.** (1-3:Arr.:Arr.) F.Su. Limited to participants in B.Y.U. Travel Studies Program. Staff
Analyzes the principal sociological aspects of those societies included in the B.Y.U. Travel Studies Tours.
- 316 (316). Social Control.** (2:2:0) S. Ballif, Larsen, Vernon
Importance of public opinion, belief, social suggestion, ceremony, personal ideals, etc. as means of controlling behavior.
- 320 (320). Social Statistics.** (3:3:0) F.S.Su. Home Study also. Staff
Statistical procedures used in sociological research, including analyses of measurements of central tendency, dispersion, symmetry, testing, hypotheses, estimation from samples, and scientific prediction.
- 348 (348). Collective Behavior.** (2:2:0) S. Ballif, Larsen
The action of groups which operate without clearcut direction from the culture within which they are found. Such groups as lynching mobs, riots, and crowds are analyzed as well as mass behavior and communication. The causes, nature, and consequences of such behavior are considered.
- 350 (350). (Soc-Psych) Introduction to Social Psychology.** (3:3:0) S.Su. (G-SS) Prerequisite: Sociology 111 or Psychology 111. Staff
Nature of social influence; socialization; concept of norm; role and status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.
- 360 (360). Introduction to Social Work.** (2:2:0) F. Ballif, Symons
Introductory survey of the various fields and methods of social work. Considers implications of social work for the related professions.
- 362 (362, 363). Introduction to Social Case Work.** (2:2:0) F. Ballif, Symons
Analyzes principles and practices of case work with the maladjusted and dependent.
- 364 (New). Introduction to Social Group Work.** (2:2:0) S. Prerequisite: Sociology 360. Dyer, Larsen, Symons
Analyzes the principal theories and practices in social group work.
- 370 (580). Social Relations in Medical and Health Organizations.** (2:2:0) S. Dyer, Peterson
Analyzes the structure of medical and health organizations. Designed for pre-medical, pre-dental, and health education students.
- 380 (380). Introductory Criminology and Penology.** (3:3:0) F.S.Su. Empey, Smith, Symons
Analyzes nature and extent of criminal behavior. Emphasizes current theory and research as they relate to the causes of crime.
- 383 (383). Juvenile Delinquency.** (2:2:0) F.S.Su. Home Study also. Prerequisite: Sociology 111. Empey, Peterson, Smith, Symons
Analyzes lawlessness of children and adolescents. Stresses causations, treatment, prevention, and outlook.

- 386 (386). Organized Crime.** (2:2:0) F.S. Prerequisites: Sociology 111, 380.
Empey, Smith, Symons
Historical backgrounds for development of organized crime in the United States. Considers proposals for prevention.
- 389 (389). Social Aspects of Mental Health.** (3:3:0) F. Home Study also. (G-SS)
Christiansen, Symons
Personality disorders and emotional maladjustments which originate in group life. Social causation, treatment, and prevention of mental ills.
- 397 (519). Methods of Research in Sociology.** (3:3:0) S.Su. Prerequisite: Sociology 111. Staff
Basic methods of research used in investigation of sociological data.
- 403 (403). Marriage and the Family in American Society.** (2:2:0) F.S.Su. Home Study also. Staff
Analyzes the effect that American society has upon successful marriage and family living. Problems connected with the roles of child, adolescent, wife, husband, and the aged are discussed.
- 410 (392). Racial and Minority Group Relations.** (2:2:0) F.Su. Home Study also. Ballif, Larsen
Basic processes in present-day inter-relations of racial and minority groups. Analyzes prejudice, its causes, and programs for its reduction.
- 420 (550). Population Problems.** (3:3:0) F. Home Study also. Staff
The relationship of population factors to important problems encountered in education, labor, government, and other facets of modern life.
- 423 (423, 426). The Sociology of Urban and Rural Life.** (5:5:0) F.S. Home Study also. Prerequisite: Sociology 111. Christiansen, Payne, Smith
The distinctive factors and problems of both rural and urban living. Comparisons are made between these two forms of social life.
- 446 (446). Sociology of Industrial Relations.** (3:3:0) S. Larsen
Role that social forces play in determining industrial organization. Emphasizes labor-management relations and problems of applied industrial sociology.
- 449 (449). Community Organization, Action, and Planning.** (2:2:0) F. Ballif, Dyer
Basic fundamentals of community life. Analyzes techniques and methods for organizing community resources for efficient achievement of community objectives.
- 470 (590). Social Change.** (3:3:0) S.Su. Prerequisite: Sociology 111. Ballif, Bradford, Peterson
Analyzes the factors and processes of social change.
- 491 (528). Senior Seminar.** (2:2:0) F.S.Su. Prerequisites: Sociology 111; individual must be senior. Staff
Analysis, formation and integration of basic sociological concepts.
Advanced Undergraduate or Graduate Courses
- 504 (503, 504). Development of Sociological Theory.** (3:3:0) F. Prerequisite: Sociology 111. Bradford, Dyer, Smith
Analyzes the development of prominent sociological theories and the contributions of outstanding theorists.
- 505 (505). Sociological Principles.** (3:3:0) S. Prerequisite: Sociology 111. Bradford, Dyer
Analysis of generalizations derived by sociology concerning how social interaction, groups, institutions, roles, statuses, and culture affect human behavior.

- 512 (512). **Sociology of Education.** (2:2:0) S. Smith
Analyzes principles of sociology of education and their implication for theory and practice of school administration, curricula, and methods of instruction.
- 516 (516). **Sociology of Religion.** (2:2:0) F. Ballif, Empey, Smith, Vernon
Analyzes influences of social factors in development of various religious systems.
- 524 (524). **Advanced Social Statistics.** (3:3:0) F. Prerequisite: Sociology 111. Staff
Advanced course designed for those who intend to do research or continue in graduate work.
- 542 (542). **Social Movements.** (2:2:0) S. Ballif, Payne, Symons
Discusses social aspects of various movements from Adam Smith to John Dewey with special emphasis upon social reform movements in the United States.
- 543 (543). **Social Legislation.** (2:2:0) S. Ballif
Study of basic problems and techniques of social legislation. Analyzes various systems now in operation.
- 551 (551). **Sociology of Recreation.** (2:2:0) S.Su. Ballif, Payne
Treats relations of recreational interests to growth, group behavior, and social maladjustments. Emphasizes basic theories of recreative activities.
- 552 (552). **(Soc-Psych) Personality: Culture and Society.** (3:3:0) F. Prerequisite: Sociology 111 or Psychology 111. Christiansen, Dyer, Hardy, Moffit
- 555 (555). **(Soc-Psych) Group Dynamics.** (2:2:0) S. Prerequisite: Sociology 350. Dyer, Hardy
Analyzes research and theories of group dynamics.
- 560 (560). **Family and Kinship.** (2:2:0) S. Bradford, Empey
Emphasizes the family in several different societies and problems created by various family systems.
- 570 (570). **Class, Status, and Power.** (2:2:0) F. Prerequisite: Sociology 111. Empey, Peterson
Analyzes the major status and class systems in various societies. Also discusses power relations in such systems.
- 580 (580). **Social Relations in Medical and Health Organizations.** (2:2:0) S. Dyer, Peterson
Analyzes the structure of medical and health organizations. Designed for pre-medical, pre-dental, and health education students.
- 591 (583). **Seminar in Crime Causation and Treatment.** (2:2:0) S. Prerequisites: Sociology 111, 380. Empey, Smith, Symons
Considers the major causes of crime and analyzes prevalent theory and techniques of treatment of criminals.
- 595 (536). **Directed Readings.** (1-3:0:2-6) F.S.Su. Staff
The student is given readings in special areas.
- 596 (New). **Directed Readings.** (1-3:0:2-6) F.S.Su. Staff
The student is given directed readings in special areas.
- 597 (520, 521). **Advanced Research Methods.** (3:3:0) S. Prerequisite: Sociology 497. Staff
Analyzes methods used in investigation of sociological data. Field projects give the student actual experience in research.

Graduate Courses

- 686 (686). Problems in Race Relations.** (2:2:0) F. Ballif, Jensen
Considers significant problems of a specialized nature in the field of race relations.
- 699 (699). Thesis for Master's Degree.** (Arr.) F.S.Su. Staff
- 701 (New). Advanced Statistical Methods.** (2:2:0) S. Prerequisites: Sociology 320, 524. Christiansen, Peterson
Consideration of advance statistical techniques such as scalogram analysis, factor analysis, and latent structure analysis.
- 791 (New). Seminar: Social Organization.** (2:2:0) F. Prerequisites: Sociology 111, 505. Staff
Comprehensive examination of major theories of organization with emphasis upon theory construction.
- 792 (New). Seminar: Social Psychology.** (2:2:0) S. Prerequisites: consent of instructor; Sociology 350. Staff
Designed to give advance work to graduate students. Gives special emphasis to group processes and socialization.
- 796 (796). Special Research Problems.** (1-3:0:2-6) F.S.Su. Staff
- 797 (798). Special Research Problems.** (1-3:0:2-6) F.S.Su. Staff
- 799 (New). Dissertation for Ph.D.** (Arr.) F.S.Su. Staff
Ph.D. Dissertation.

ANTHROPOLOGY

Anthropology is the field which seeks to explain why patterns of human behavior differ or are the same. While centered in the social sciences it has important interests in common with the humanities and the life sciences. Cultural anthropology emphasizes the idea of culture; professional specialties within this subfield are ethnology, linguistics, archaeology, and social anthropology. Physical anthropology emphasizes the relation of man's biological features and his culture.

A major in this department will provide a sound basis for graduate work leading to professional research and teaching. This major also constitutes a challenging approach to liberal education for those not planning advanced work. It also qualifies one for positions in many areas where a social science background is required.

Suggestions for a Major

The departmental requirement for the bachelor's degree with a major in anthropology is the completion of 30 hours in anthropology. These must include Anthropology 101, 111, 241, 261, 325, 401, and 490. Approval may be obtained to substitute up to 6 hours of credit from selected courses in closely related fields. Note that Anthropology 552 can be used for credit in anthropology, psychology, or sociology, but not in more than one. Anthropology 325 can be used for credit in anthropology, English, or languages, but not in more than one.

Suggestions for a Minor

A minor in anthropology requires 16 hours in this field including Anthropology 101, 111, and 490.

Lower Division Courses

- 101 (100). Introductory Anthropology.** (3:3:0) F.S.Su. Home Study also. (G-SS) Staff
Basic concepts, data, and conclusions of anthropology, the study of the

reasons for likenesses and differences in men's ways of life.

- 111 (110). Cultures of the World.** (3:3:0) S. Su. (G-SS) Prerequisite: Anthropology 101 or consent of instructor. Staff
The variety of patterns of human behavior in the world seen through study of a representative sample of functioning cultural systems.
- 241 (241). The Growth of Culture in the Old World.** (3:3:0) F. Prerequisite: Anthropology 101 or consent of instructor. Sorenson
The course of development of culture in the eastern hemisphere from the earliest evidence up to the present with emphasis on prehistory.
- 246 (246). The Growth of Culture in the New World.** (2:2:0) S. Prerequisite: Anthropology 101 or consent of instructor. Sorenson
The sequences and characteristics of prehistoric cultural development in all parts of the hemisphere.
- 261 (New). Physical Anthropology.** (2:2:0) F. Prerequisite: Anthropology 101 or consent of instructor. Staff
The relation of man as a physical organism to his cultural and social behavior; also the methods of physical anthropology.

Upper Division Courses

- 305 (430). Religion in the Simpler Cultures.** (2:2:0) S.Su. Prerequisite: Anthropology 101 or consent of instructor. Staff
Religious beliefs and practices and related behavior in the less complex cultures treated functionally and comparatively.
- 401 (New). Comparative Cultural Systems.** (3:3:0) F. Prerequisite: Anthropology 101 or consent of instructor. Sorenson
Aids the major or other advanced student to integrate his knowledge of the field and to develop a theoretical position of his own.
- 417 (New). Native Peoples of North America.** (2:2:0) S. Prerequisite: Anthropology 101 or consent of instructor. Staff
Distribution and characteristics of the native cultures of this continent at the time of first contact with the Europeans; also consideration to present conditions of Indian groups.
- 418 (New). Native Peoples of Central and South America.** (2:2:0) S. Prerequisite: Anthropology 101 or consent of instructor. Staff
Distribution and characteristics of native cultures.
- 490 (640). Theory and Method of Anthropology.** (2:2:0) F. Prerequisite: Anthropology 101 or consent of instructor. Staff
History of anthropological theory and methods, present theoretical trends, and basic methods in the subfields; archaeology, ethnology, and linguistics.

Speech and Dramatic Arts



Professors: Hansen (chairman, 124 SpC),
de Jong, Mitchell, Morley.

Associate Professors: Bateman, Gledhill, Me ch a m,
Woodbury.

Assistant Professors: Clinger, Jex, Pardoe, Rich, Wea-
ver.

Instructors: Hanson, McKinlay, Michie, Rich-
ardson, Struthers.

Requirements for Major

The Department of Speech and Dramatic Arts offers both B.A. and M.A. degrees. It is recommended that students who major in speech and dramatic arts qualify for the B.A. degree by completing the foreign language requirement. Students may elect to specialize in one of five areas of speech. Required courses may be waived only on acceptance of the student's petition by the department waiver committee. Senior Seminar, Speech 491, is required of all majors and minors and is taught Second Semester only.

AREAS OF CONCENTRATION

Theatre and Dramatic Arts

	Hours
Basic courses: 101, 121, 241, 460, 471, 491	15
Requirements for specialization: 123, 126, 316, 317, 319, (320, 321—2 hours), and 423	21
Total	36
Additional courses recommended: Speech 260, 315; English 282, 345, 356, 382, 541, 542, 543; Physics 103.	

Sequence of Courses

	First	Second
First Year	101 (3) 126 (1)	121 (3) 123 (3)
Second Year	241 (2)	
Third Year	316 (3) 319 (2)	317 (3) 320-321 (2)
Fourth Year	460 (2) 423 (3)	491 (2) 471 (3)

Public Speaking

	Hours
Basic courses: 101, 121, 241, 460, 471, 491	15
Requirements for specialization: 111, 305, 401, 402, 7 or 8 hours of	

electives from 123, 255, 325, 524, 525, 547	16-17
Total	31-32
Additional courses recommended: Speech 260; courses in American history and government.	

Sequence of Courses

	First	Second
First Year	101 (3)	121 (3)
Second Year	111 (2)	241 (2)
	305 (2)	
Third Year	401 (2)	402 (2)
	460 (2)	
Fourth Year	471 (3)	491 (2)

Speech and Hearing Science and Rehabilitation

	Hours
Basic courses: 101, 121, 241, 460, 471, 491	15
Requirements for specialization: 472, 473, 474, 480, 483, 484, 541, 545, 546	13
plus selection of alternatives 1, 2, or 3 below	
1. Public School Speech and Hearing: 366, 481	4
2. Clinical Speech and Hearing: 481, 542	4
3. Audiology: 470, 482, 561	6
Total	32-34

For those seeking certification as public school speech and hearing therapists, the general elementary credential is required. Course work for this credential may be substituted as follows: Speech 475 (4 hrs.) for one semester of practice teaching; Speech 480, 481, 474 (2 hrs. each) will permit taking Instruction 320 only (in lieu of the regular curriculum courses). Those seeking the additional speech and hearing credential must take, in addition to the above, E.R.S. 560 (Intro. Educ. Excep. Child, 2 hrs.).

Sequence of Courses

	First	Second
First Year	101 (3)	121 (3)
	241 (2)	260 (2)
Second Year	470 (2)	471 (3)
	366 (2)	472 (1)
Third Year	473 (2)	481 (2)
	460 (2)	483 (1)
	480 (2)	474 (2)
	546 (2)	
Fourth Year	484 (1)	542 (2)
	541 (1)	491 (2)
	545 (2)	

Note: Speech 260 (phonetics), Speech 470 (Speech Science), Speech 542 (Organic Speech Disorders), Speech 547 (Psychology of Speech) Speech 560 (Advanced Audiology), and Psychology 340 (Mental Hygiene) are applicable toward A.S.H.A. certification. For instructions on additional certification requirements (A.S.H.A., Public School Credentials, etc.) consult with speech and hearing area staff.

Radio and Television

	Hours
Basic courses: 101, 121, 241, 460, 471, 491	15

Requirements for specialization: 346, 449, 455, 456; also 452 and 453, or 255	11
plus alternatives 1, 2, 3, or 4 (below) to total 8 hours	8
Total	34

Courses in alternate areas (1) Education, (2) Production, (3) Business,
and (4) Journalism should be approved by student's adviser.

Additional courses recommended: Speech 351, 450, 347.

Sequence of Courses

	First	Second
First Year	101 (3)	121 (3)
Second Year	241 (2)	*255 (2)
	346 (2)	347 (2)
Third Year	320 or 321 (2)	305 (3)
	401 (3)	377 (3)
		460 (2)
Fourth Year	499 (3)	471 (3)
	460 (2)	491 (2)
	545 (2)	
	475 (4)	

*The student may take either 452 and 453, or 255.

Students majoring in this area should select a closely related minor. The following minors are suggested: marketing, business, administration, journalism, commerce, or education.

General Speech for Teachers in Secondary Schools

	Hours
Basic courses: 101, 121, 241, 460, 471, 491	15
Requirements for specialization: 111, 123, 126, 305, 319, (320, 321— 2 hrs.). 401	15
Total	30
Additional courses recommended: Speech 260, 317, Psychology 111, Physics 103.	

For those students who plan to qualify for a secondary teaching certificate, Speech 377 and 479 will be required.

Sequence of Courses

	First	Second
First Year	101 (3)	121 (3)
		123 (3)
Second Year	111 (2)	126 (1)
	241 (2)	318 (2)
Third Year	320 or 321 (2)	305 (3)
	401 (3)	377 (3)
		460 (2)
Fourth Year	479 (3)	491 (2)
		471 (3)

Requirements for Minor

The requirements for the general minor in speech are made up of the following courses: Speech 102, 121, 460, 319, 1 credit hour from either 320 or 321, 4 credit hours of electives selected in consultation with the department chairman.

The requirements for a minor in speech and hearing rehabilitation are Speech 101, 121, 366, 471, 473, 480, 481, 483, 484, 545.

Lower Division Courses

- 57 (107, 108). **Speech for Foreign Students.** (0:5:0) F. Staff
- 58 (108, 109). **Speech for Foreign Students.** (0:5:0) S. Staff
- 60 (New). **Remedial Speech.** (0:0:3) F.S. Staff
- A non-credit service course for college students who have speech and/or language problems.
- 101 (101). **Fundamentals of Speech.** (3:3:1) F.S. Staff
Beginning course to aid self-improvement in speech as a mode of communication. Provides opportunity to practice for greater effectiveness in personal use of the various speech skills. Recommended for speech majors, prospective teachers, and students who desire improvement in their everyday speech activities.
- 102 (102). **Introduction to Public Speaking.** (2:2:1) F.S. Staff
Practical and general service course designed for students who desire to improve their speech efficiency, poise, and self-confidence in public speaking situations. Provides opportunity to develop and improve skill in organization and delivery of all types of speeches encountered in business, professional, social, and religious activities.
- 105p (105p). **Speech Clinic.** (1:0:1-5) F.S. Staff
Corrective treatment of stuttering, lisping, and other forms of speech disorders.
- 106p (106p). **Speech Coaching.** (1:1:0) F.S. Staff
Personal treatment for students having problems with stuttering, voice, articulation, hearing, etc. Special fee.
- 111 (111). **Introduction to Argument and Debate.** (2:2:2) F.S. Richardson
Principles of argumentation and practice in debate.
- 112 (112, 113). **Debate Technique.** (1:1:1) F.S. Bateman, Richardson
Open to members of the forensic squad who obtain approval of the Speech Department and Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.
- 113 (113, 114). **Debate Technique.** (1:1:1) F.S. Bateman, Richardson
Open to members of the forensic squad who obtain approval of the Speech Department and Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.
- 121 (121, 122). **Voice, Diction and Interpretation.** (3:3:3) F.S. (G-HA) Staff
Practical and general course designed to improve vocal skill and oral reading. Attendance at Monday night Mask Club required.
- 123 (123). **Fundamentals of Acting.** (3:3:1) F.S. Woodbury
Basic theories and techniques of acting. Attendance at Monday night Mask Club required.
- 126 (126). **Makeup.** (1:1:2) F.S. Staff
Theory and practice of theatrical makeup. Attendance at Monday night Mask Club required.
- 241 (241). **Introduction to Radio and TV Broadcasting.** (2:2:3) F.S. McKinlay, Rich
Discussion of scope, influence, current practice, problems, and social implications of the American system of radio and television broadcasting; microphone and TV camera practice and experience. Attendance at Monday night Mask Club required.

255 (255). Beginning Radio and T.V. Production. (2:2:0) F.S.

McKinlay, Rich

Practice in performance, production, and direction of radio and television dramatic and commercial programs. Adaptation of basic dramatic talent to the broadcast media.

260 (260). Practical Phonetics. (2:2:0) F.S.

de Jong

Upper Division Courses**301 (301, 303). Debate Techniques. (1:1:1) F.S.**

Bateman, Richardson

Open to members of the forensics squad who obtain approval of the Speech Department and the Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

302 (302). Debate Techniques. (1:1:1) F.S.

Bateman, Richardson

Open to members of the forensics squad who obtain approval of the Speech Department and the Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

304p (304p). Public Speaking. (1:1:0) F.S.

Staff

Individual instruction. Special fee.

305 (103, 305). Discussion and Conference Leadership. (2:3:0) F.S.

Bateman, Richardson

Concerned with basic democratic procedure for cooperative thinking. Offers experience in business and industrial conference leadership. For those who serve on committees or boards; conduct classroom sessions; conduct staff meetings; talk over and resolve common problems in church, school, or office; and for all who are preparing to participate in or lead informal discussion in small groups.

307 (307). Program Directors. (1:1:0) F.S.

Staff

Designed to help and train students in the art of directing and emceeing formal and informal programs. To cover audience psychology; how to introduce a performer; how to tell a story; how to form and direct entertainment programs.

315 (315). Introduction to the Theatre. (2:2:1) F.S. (G-HA)

Staff

Introduces students to fundamental theories of theatre arts. Develops a discriminating appreciation and provides a basic background for those interested in theatre. Attendance at Monday night Mask Club required.

316 (316, 317). Theatre History. (3:3:0) F. (G-HA)

Hansen

History of the theatre from its beginnings through the Elizabethan period.

317 (317, 318). Theatre History. (3:3:0) S. (G-HA)

Woodbury

History of the theatre from the Restoration period to the present.

319 (319). Stage Craft. (2:3:0) F.S.

Struthers

Lecture in theories and techniques of stage craft. Attendance at Monday night Mask Club required.

320 (320). Stage Craft Lab. (1-4:0:3-12) F.S.

Struthers

Laboratory application of theories and techniques. Attendance at Monday night Mask Club required.

321 (321). Stage Craft Lab. (1-4:0:3-12) F.S.

Struthers

Laboratory application of theories and techniques. Attendance at Monday night Mask Club required.

323 (323). Technique of Playwriting. (1-3:1-3:2) F.S.

Mitchell

Theory and extensive practice in playwriting. Attendance at Monday night Mask Club required.

- 325 (325). **Advanced Interpretation.** (3:3:0) S. Staff
Artistic oral reading on advanced level.
- 346 (346, 347). **Radio and Television Production Workshop.** (2:1:2) F. McKinlay, Rich
Experience in planning and producing radio and television programs for University Broadcasting Service Network.
- 347 (347, 348). **Radio and Television Production Workshop.** (2:2:0) S. McKinlay, Rich
Experience in planning and producing radio and television programs for University Broadcasting Service Network.
- 351 (251, 351). **Radio and Television Program Writing.** (1-3:1-2:1) F. Prerequisite: consent of instructor. McKinlay
Practice in writing various types of low-cost radio and television programs.
- 401 (401, 403). **Advanced Public Speaking.** (3:3:0) F. Prerequisite: Speech 101. Bateman, Richardson
Advanced study and practice in techniques of speaking.
- 402 (402). **Advanced Argument and Debate.** (2:2:0) F. Prerequisite: Speech 111. Bateman, Richardson
Analysis of classic debates and practice in argumentative writing and speaking.
- 412 (412). **Religious Drama.** (2:2:0) F.S. Hansen
- 423 (422, 423). **Advanced Acting.** (3:3:1) S. Hansen
Theory in characterization and advanced acting techniques. Attendance at Monday night Mask Club required.
- 427p (427p). **Dramatic Technique.** (1:3:0) F.S. Staff
Instruction in advanced dramatic techniques. Special fee.
- 449 (449). **Radio and Television Programming and Audiences.** (3:3:0) F. McKinlay
Analysis and extensive observation of basic program forms used in radio and television; examination of effective program structures and appeals; consideration of audience situation and measurement.
- 450 (450). **Radio and Television Law and Program Planning.** (3:3:0) S. McKinlay
Discussion of the influence of public attitudes and decisions of regulatory bodies on basic program standards; practice in planning radio and television programs consistent with these standards.
- 452 (452, 453). **Radio and Television Announcing.** (1:1:0) F. Prerequisite: Speech 121, 241, or consent of instructor. McKinlay
Practice in presentation of all types of radio and television announcer materials.
- 453 (453, 454). **Radio and Television Announcing.** (1:1:0) S. Prerequisites: Speech 121, 241, or consent of instructor. McKinlay
Practice in presentation of all types of radio and television announcer materials.
- 455 (455, 456). **Advanced Television Production and Direction Workshop.** (2:1:2) F. Prerequisite: consent of instructor. Rich
Practice in production and direction of television programs for educational and commercial TV stations.
- 456 (456, 457). **Advanced Television Production and Direction Workshop.** (2:1:2) S. Prerequisite: consent of instructor. Rich
Practice in production and direction of television programs for educational and commercial TV stations.

- 460 (460). **Directing.** (2:3:3) F.S. Staff
Theories and techniques of directing a play. For advanced students only.
Attendance at Monday night Mask Club required.
- 470 (470). **Speech Science.** (2:2:2) F. Morley
Study of the aspects of physics, physiology, phonetics, and experimental phonetics that underlie the speech process.
- 471 (471). **Introduction to Speech Correction.** (3:3:0) F.S. Prerequisite: Speech 121. Morley
Causes, symptoms, and treatment of various types of abnormal speech.
- 472 (472). **Normal Development of Oral Language.** (1:1:0) F. Mecham
- 473 (473). **Introduction to Audiology.** (2:2:2) F.S. Prerequisite: Speech 473 or consent of instructor. Weaver
- 491 (491). **Senior Seminar.** (2:3:1) S. Staff
Required of all seniors. Attendance at Monday night Mask Club required.
- 524 (524). **High School Forensics and Programming.** (1-2:1-2:1-6) S. Bateman
- 525 (525). **Debate Coaching.** (1-2:1-2:0) F.S. Richardson
Designed for prospective debate coaches. Covers debate techniques and how they are taught.
- 527 (527). **Storytelling.** (2:2:0) S. Staff
Art of storytelling. Especially valuable to teachers and youth leaders.
- 541 (541). **Stuttering.** (1:1:0) F. Morley
- 542 (542). **Organic Speech Disorders.** (2:2:0) S. Mecham
- 545 (545). **Public School Audiometry.** (2:2:2) F.S. Prerequisite: Speech 473. Weaver
- 546 (546). **Anatomy of the Ear and Vocal Organs.** (2:2:0) F. Mecham
- 547 (547). **Psychology of Speech.** (2:2:0) S. Prerequisite: Psychology 111. Morley
- 560 (560). **Clinical Audiology.** (2:2:2) F.S. Prerequisite: Speech 473. Staff
- 561 (New). **Hearing Aids.** (1:1:0) S. Weaver
Construction, use, and fitting of hearing aids.
- 570, 571 (570, 571). **Creative Dramatics.** (2:2:1) F. Mitchell
Evolving dramas from the personal experiences and creativeness of participants.
- 572, 573 (572, 573). **Children's Theatre.** (2:2:1) S. Mitchell
Directing for audiences of children and youth. Participation in Youtheatre productions. Attendance at Monday night Mask Club recommended.
- 577 (577, 578). **Playwriting.** (1-3:1-3:0) F. Hansen, Mitchell
Advanced techniques and theories.
- 578 (578, 579). **Playwriting.** (1-3:1-3:0) S. Hansen, Mitchell
Advanced techniques and theories.

Speech Education

- 366 (366). **Speech in Elementary School.** (2:2:0) F.S. Home Study also. Jex
Objectives and methods of developing good speech habits in children.
Recognition and management of minor speech problems.

- 377 (377). Secondary Teaching Procedures.** (3:3:1) S. Prerequisite: Instruction 301. Clinger
Lectures, demonstrations, observation.
- 474 (474). Lip Reading.** (2:3:0) S. Prerequisite: Speech 473. Staff
Methods of teaching lip reading and auditory training to children and adults.
- 475 (475). Practice Teaching in Correction of Speech and Hearing Disorders in the Public Schools.** (4:0:14) F.S. Prerequisites: Instruction 118 and completion of a minimum of 150 clock hours of clinic practicum in Speech Education 483, 484, 485. Jex
Supervised teaching in public elementary school for a full quarter on a half-day basis. Qualified student clinicians who register for this course are placed in a public school district where there is a practicing public school speech and hearing correctionist. The student teachers get experience in diagnosis and therapy with children who have speech and hearing disorders. Student teachers participate in weekly seminars and personal conferences with the supervisors. The nature of this course dictates that students limit their load to 10 semester hours. A special fee of \$15.00 is charged to equalize the cost of travel for student teachers regardless of location of cooperating public schools.
- 479 (478, 479). Secondary Student Teaching.** (8:1:20-80) F.S. Prerequisites: Speech Education 377 and completion of two-thirds of courses required for teaching major and minor or composite major. Clinger
For course description and fees see Instruction 479.
- 480 (480). Clinical Methods in Correction of Functional Disorders of Speech.** (2:2:0) S. Jex
Beginning clinical methods in speech correction.
- 481 (481). Clinical Methods in Correction of Organic Speech Disorders.** (2:2:0) F.S. Prerequisite: completion of or concurrent registration in Speech 542. Staff
Advanced clinical methods in speech correction.
- 482 (482). Clinical Methods of Teaching Speech to the Deaf and Hard of Hearing.** (2:2:0) S. Weaver
Methods of teaching speech and oral language to the hearing handicapped.
- 483 (483, 484). Clinical Practice in Speech Correction.** (1:0:4) F. Prerequisite: Speech 480. Staff
Supervised practice in handling various types of speech and hearing disorders.
- 484 (484, 485). Clinical Practice in Speech Correction.** (1:0:4) S. Prerequisite: Speech 480. Staff
Supervised practice in handling various types of speech and hearing disorders.

Graduate Courses

- 603 (603). Radio and Television Projects.** (1-4:1-4:0) S. Staff
- 605 (605). History of Radio and Television Programming.** (2:2:0) S. Staff
- 621 (621). Ancient Rhetoric and Oratory.** (2:2:0) F. Bateman
- 622 (622). History of British Public Speaking.** (2:2:0) S. Bateman
- 623 (623). History of American Oratory and Public Address.** (2:2:0) F. Bateman
- 624 (New). Contemporary Public Address.** (2:2:0) S. Bateman, Richardson

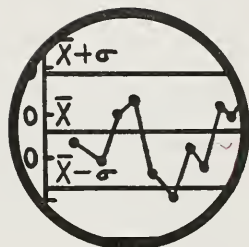
- 640 (640, 641). Graduate Clinical Practice Speech and Hearing. (1-2:1-2:0) F. Staff
Required of all graduate students in speech and hearing.
- 641 (641, 642). Graduate Clinical Practice Speech and Hearing. (1-2:1-2:0) S. Staff
Required of all graduate students in speech and hearing.
- 643 (643). Methods and Problems of Research in Speech. (2:2:0) F. Staff
Required of all graduate students.
- 645 (645). Advanced Studies in Stuttering. (2:2:0) S. Morley
- 646 (646). Advanced Studies in Cleft Palate. (2:2:0) F. Mecham
- 647 (647). Advanced Studies in Cerebral Palsy. (2:2:0) F. Mecham
- 648 (648). Advanced Studies in Aphasia. (2:2:0) S. Mecham
- 656 (656). Special Projects in Speech Pathology. (1-4:1-4:0) F.S. Staff
- 660 (660). Theory of Interpretation. (2:2:0) S. Gledhill, Woodbury
- 662 (662). Regional Dialects. (2:2:0) S. Clinger
- 663 (663). Program Building and Lecture Recital. (2:2:0) F. Gledhill, Mitchell
- 664 (664, 665). History of Theatre I. (3:3:0) F. Hansen
- 665 (665, 666). History of Theatre II. (3:3:0) S. Woodbury
- 667 (667). History of Acting. (2:2:0) F. Woodbury
- 668 (668). Special Problems in Theatre History. (1-3:1-3:0) F.S. Staff
- 670 (New). Advanced Play Production—Technical. (2:2:0) S. Staff
- 671 (671). Experimental Theatre. (2:2:0) F. Hansen
- 672 (672). Problems of the Producing Director. (2:2:0) F. Hansen
- 673 (673). Advanced Play Production—Directing. (2:2:0) S. Hansen
- 674 (674). Projects in Theatre. (1-4:1-4:0) F.S. Staff
- 675 (675, 676). Stage Design. (2:2:1) F. Staff
- 676 (676, 677). Stage Design. (2:2:1) S. Staff
- 678 (678). Stage Lighting. (1-2:1-2:0) F.S. Staff
- 690 (690). Seminar in Mass Communication. (1-3:1-3:0) F.S. Staff
- 691 (691). Selected Readings in Radio and Television. (1-3:1-3:0) F.S. Staff
- 692 (692). Seminar in Public Speaking. (1-3:1-3:0) F.S. Bateman
- 693 (693). Special Studies in Speech Pathology. (1-3:1-3:0) F.S. Staff
- 695 (695). Seminar in Psychoacoustics of Speech and Hearing. (1-3:1-3:0) F. Staff
S.
- 696 (696). Seminar in Interpretation. (1-3:1-3:0) F.S. Mitchell
- 697 (697). Seminar in Arena Theatre. (1-4:1-4:0) F.S. Hansen
- 699 (699). Thesis for Master's Degree. (Arr.) F.S. Staff

Associate
Professor: Nielson (chairman).

Assistant
Professors: Gardner, Wilson.

Instructor: Eagar.

Statistics



The curriculum in statistics is designed to serve two purposes: (1) to provide for students the necessary educational background for careers as professional statisticians in industrial organizations, government agencies and research institutes, and (2) to provide an integrated series of courses which will serve the entire University in providing technical tools which can be applied in many subject-matter areas.

Statistics, though a relatively recent professional field of study, has been given greater emphasis by a number of leading universities. There is a growing demand for statisticians in the natural and social sciences as well as in industry, especially since the development of electronic data processing equipment.

Statistics is an excellent major or minor in combination with accounting, agricultural economics, botany, business management, economics, education, mathematics, psychology, sociology, zoology, and other departments in the social, agricultural, biological, and physical sciences.

The department offers a major in statistics in either the College of Business or in the College of Physical and Engineering Sciences. The department also offers both an undergraduate and a graduate minor.

Requirements for a Major in Statistics in the College of Business

A. Departmental Requirements:	Hours
Statistics 221; 431; one of 333, 432, 532; 521; 522; one of 531, 534; and six additional hours	21
Mathematics 111, 112, 213, 214 or equivalent	20
B. College of Business Requirements:	
Accounting 211	5
Business Management 340, 342, 347, 348	12
Economics 111, 112, 345	8
Total	25

Requirements for a Major in Statistics in the College of Physical and Engineering Sciences

A. Departmental Requirements:	
Statistics 221, 431, 521, 522, 531, 534, 541 and six additional hours	23
Mathematics 111, 112, 213, 214	20
B. College of Physical and Engineering Sciences Requirements:	
At least fifteen semester hours in the College of Physical and Engineer-	

ing Sciences in addition to the mathematics requirement stated above	15
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Requirements for an Undergraduate Minor

Statistics 221 and 431, or Statistics 521 and 522; Statistics 531 or 534; three additional courses in statistics	13-14
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Suggested Program for Statistics Majors

Freshman Year	Hours
Religion	4
Physical Education	1
Health	2
English 111 and 112, or 115 and 116	4-6
Mathematics 111 and 112	10
History 170 or 180	3
Social Science (Economics 111 and 112 recommended)	5
Electives	2-4
Total	33

Sophomore Year	Hours
Religion	4
Physical Education	1
Mathematics 213, 214	10
Physical Sciences	6
Biological Sciences	3
Humanities and Aesthetics	
Literature	3
Other	2
Statistics 221	2
Electives	4
Total	35

College of Business Majors

Junior Year	Hours
Religion	4
Biological Sciences	3
Humanities and Aesthetics (Philisophy 381 recommended)	3
Statistics 431	3
One of Statistics 333, 432, 532	2
Accounting 211	5
Economics 345	3
Business Management courses	6
Electives	7
Total	36

Senior Year	Hours
Religion	4
Business Management courses	6
Statistics 521, 522	6
Statistics 531 or 534	2
Statistics 593, 594	2
Electives (Recommend selection of courses from the following: Accounting 556, 557; Animal Husbandry 601; Botany 376, 430; Business Management 458, 558, 559; Economics 586, 587, 682; E.R.S. 541; Journalism 564; Mathematics 311, 312, 315, 316, 371, 372, 387, 541, 542; Philosophy 483; Psychology 670, 671; Sociology	

524; statistics courses not already included and Zoology 376, 576 .. 16

Total 36

College of Physical and Engineering Sciences

Junior Year	Hours
Religion	4
Biological Sciences	3
Humanities and Aesthetics (Philosophy 381 recommended)	3
Statistics 431, 531	5
Physical and Engineering Sciences	10
Electives	11
Total	36

Senior Year	Hours
Religion	4
Physical and Engineering Sciences	5
Statistics 521, 522	6
Statistics 534	2
Statistics 541	2
Statistics 593, 594	2
Electives	15
Total	36

Lower Division Courses

- 131 (Acct. 230). Elementary Mathematics of Business.** (2:2:0) F.S.Su. Staff
Application of mathematics to business. Includes fundamental operations; factoring; ratios, proportions, and percentages; simple equations; exponents, roots and radicals; quadratic equations; functions and graphs.
- 221 (Econ. 331). Principles of Statistics.** (2:2:0) F.S.Su. Prerequisite: Statistics 131 or equivalent. Staff
A basic course in general statistics suitable for students in all fields. Includes frequency distributions; measures of central tendency and dispersion; elementary probability and the normal curve; sampling; linear regression; and elementary inference.
- 231 (Acct. 231, Econ. 332). Business Statistics and Mathematics.** (3:3:0) F.S. Su. Prerequisite: Statistics 131 or equivalent. Staff
Includes series; logarithms; interest and discount; annuities; sinking funds; index numbers; collection and presentation of data; misuses of statistics; trend, seasonal and cyclical fluctuations; descriptive statistics.

Upper Division Courses

- 332 (Acct. 332). Mathematics for Economists and Statisticians.** (3:3:0) F. Prerequisite: Statistics 131 or equivalent. Nielson
Selected topics from finite mathematics, vectors and matrices, trigonometry, analytical geometry, and elementary differential and integral calculus as applied to economics and statistics.
- 333 (Econ. 533). Elementary Operations Analysis.** (2:2:0) S. Prerequisite: Statistics 332 or Mathematics 112. Staff
Decision-making procedures including linear programming, game theory, inventory models and queueing theory.
- 431 (Econ. 431 and Ag. Econ. 530). Statistical Methods.** (3:3:0) F.S. Prerequisite: Statistics 221 or equivalent. Gardner, Nielson
Student's t-distribution; chi-square; analysis of variance; non-parametric

inference; multiple and partial regression. Designed for students in all fields.

- 432 (Bus. Mgt. 572). **Industrial and Engineering Statistics.** (2:2:0) F.S. Prerequisite: Statistics 221 or equivalent. Eagar, Wilson
Quality control, sampling inspection and sequential analysis.

Advanced Undergraduate or Graduate Courses

- 521, 522 (Math 521, 522, 523). **Theory of Statistics.** (3:3:0 ea.) F.S. Prerequisite: Mathematics 214 or equivalent. Dean, Nielson
Mathematical theory of statistics including probability; estimation and testing hypotheses; sampling distributions, regression.
- 531 (Ag. Econ. 531). **Experimental Design.** (2:2:0) S. Prerequisite: Statistics 221 or 521. Recommended prerequisite: Statistics 431 or 522.
Analysis of covariance; linear hypothesis; factorial design; replication; randomization; confounding.
- 532 (Econ. 532). **Advanced Business Statistics.** (2:2:0) F. Prerequisite: Statistics 221. Recommended prerequisite: Statistics 231. Eagar
Business forecasting; advanced time series analysis; growth curves; special projects.
- 534 (Econ. 534). **Sampling Techniques.** (2:2:0) F. Prerequisite: Statistics 221. Nielson
Survey design; types of sampling plans; probability and non-probability samples. Applications to a variety of fields.
- 541 (New). **Advanced Probability.** (2:2:0) F. Prerequisite: Statistics 522 or equivalent. Dean, Nielson
Advanced probability including hyper-geometric, binomial, Poisson, Beta, and Gamma distributions; random walk; Markov chains; theory of runs and sequences.

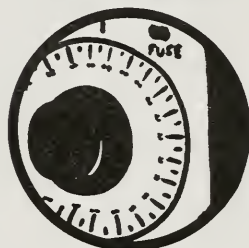
These courses also count in Statistics:

- Accounting 556 (556). **Electronic Computer Programming.** (3:3:0)
- Accounting 557 (557). **Advanced Computer Programming.** (2:2:0)
- Educational Research and Services 541 (541). **Advanced Statistics.** (2:2:0)
- Mathematics 311 (311, 312). **Computers.** (3:1:6)
- Mathematics 312 (312, 313). **Numerical Analysis.** (3:3:0)
- Mathematics 315 (318). **Applied Mathematical Analysis.** (3:3:0)
- Psychology 670, 671 (670, 671, 672). **Advanced Statistics I and II.** (3:3:0 ea.)
- Sociology 524 (524). **Advanced Statistics.** (3:3:0)

Professor: Holtkamp, Spencer.
ESC).

Instructors: Hales (acting chairman, 280

Technical and Semi-Professional Institute



Technical institutes played a minor role in American educational philosophy until the close of World War II. Since that time the expansion in American business, industry, research and development has made it mandatory that technical and semi-professional institutes be increased in scope and number to insure efficiency in production and usage of technical manpower.

A number of studies have been made in America and England on the most efficient usage of professional men in these countries. It was found that for every professionally-trained businessman, scientist, or engineer—whether employed in the office, the research laboratory, the hospital, or the field—three to seven semi-professional technicians were needed to assist him. Since America needs 30,000 trained scientists and engineers annually, the need for trained technicians is apparent.

Technical institutes are college-level institutions which specialize in the education of technicians. They are connected with state universities, community colleges, and private institutions. At Brigham Young University, an institute has been organized to train technicians in agriculture, business, and engineering. The purpose, scope, and program of the technical and semi-professional institute is well defined by the Engineers' Council for Professional Development and is quoted here for clarification and emphasis:

Curricula to be considered are technological in nature and lie in the post-high school area. They differ in content and purpose from those of the vocational school on one hand and from those of the engineering college on the other. Curricula in this field are offered by a variety of institutions and cover a considerable range as to duration and content of subject matter, but have in common the following purposes and characteristics:

1. The purpose is to prepare the individuals for various technical positions or lines of activity encompassed within the field of engineering,* but the scope of the program is more limited than that required to prepare a person for a career as a professional engineer.
2. Programs of instructions are essentially technological in nature, based upon principles of science and include sufficient post-secondary school mathematics to provide the tools to accomplish the technical objectives of the curricula.
3. Emphasis is placed upon the use of rational processes in the principal fundamental portions of the curricula that fulfill the stated objectives of the curricula.

4. Programs of instruction are briefer and usually more completely technical in content than professional curricula, though they are concerned with the same general fields of industry and engineering. They do not lead to the baccalaureate degree in engineering. Such designations as Engineering Aide, Technical Aide, Associate in Engineering, and Engineering Associate are appropriate designations to be conferred upon the graduates of programs of technical institute type.

5. Training for artisanship is not included within the scope of education of technical institute type.

The objectives of the Technical and Semi-Professional Institute of Brigham Young University are to program curricula, organize staff, and assemble equipment to meet all the requirements for accreditation by the E.C.P.D. and to furnish business, industry, and agriculture on a local, state, and national level with well-trained and productive technicians.

*This applies equally well to technicians in agriculture, business, and medicine.

Entrance Requirements

Requirements for admission to the Technical and Semi-Professional Institute of Brigham Young University are the same as those for admission to the University as listed in the front part of this catalog.

Graduation Requirements

Upon completion of 64 hours of credit in one of the technical fields described on the following pages, the student will be granted suitable certification of graduation.

AGRICULTURAL TECHNOLOGY

Specialized training and practice in various fields of agricultural technology are offered for students unable to complete the four-year professional course in agricultural science. A general course is given to freshmen entering this technology with options for more detailed specialization during the sophomore year. These options include agricultural economics, agronomy, animal husbandry, and horticulture. A student completing any one of these courses can serve as a technical aid in his special field or will have learned important skills to fit him for more efficient operation of his own farm or agricultural business. Students who decide to go on for a bachelor's degree will lose some credit in the transfer.

Freshman Year		F	S
Religion	2	2	
English 111, 112	3	3	
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	
Health 130	2		
Botany 101			3
Chemistry 101, 102, or Chemistry 111, 112	3-5	3-5	
Electives*	4-6	3-5	
	<hr/>	<hr/>	
	16 $\frac{1}{2}$	16 $\frac{1}{2}$	

*These electives should be filled with the following courses:

Two courses selected from:

Ag. Econ. 101 (F.S.)	3 hours
Ag. Econ. 125 (F.S.)	3 hours

Two courses selected from:

An. Hus. 161 (F.)	3 hours
An. Hus. 170 (F.)	3 hours
An. Hus. 153 (F.)	3 hours

Two courses selected from:

Hort. 101 (F.S.)	3 hours
Hort. 103 (F.S.)	3 hours
or	
Agronomy 141 (F.S.)	3 hours
Agronomy 251 (F.S.)	4 hours

Sophomore Year

Agronomy Option

	F	S
Religion	2	2
Agronomy 251	4	
Agronomy 302		3
Agronomy 455		2
Agronomy 305	3	
Agronomy 308		2
Agronomy 491	1	
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Electives**	6	7
	<hr/>	<hr/>
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

**Student is advised to consult with his advisor on these electives.

Sophomore Year

Agricultural Economics	Option	F	S
Religion		2	2
Physical Education		$\frac{1}{2}$	$\frac{1}{2}$
Ag. Econ. 310		3	
Ag. Econ. 325, 320		3	2
Ag. Econ. 580		2	
Ag. Econ. 350			3
Ag. Econ. 425			2
Ag. Econ. 410			2
Electives**		6	5
		<u>16$\frac{1}{2}$</u>	<u>16$\frac{1}{2}$</u>

Animal Husbandry Option

	F	S
Physical Education	1½	1½
Religion	2	2
An. Hus. 120		3
An. Hus. 171, 571	1-2	1-2
An. Hus. 208		2
An. Hus. 345	2	
or		

An. Hus. 335 or 340		3-2
Electives**	10	4-6
	<hr/> 16½	<hr/> 16½

Horticulture Option

	F	S
Religion	2	2
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Hort. 319, 317	2	2
or (depending upon year)		
Hort. 430, 318	2	4
Hort. 107	3	
Hort. 416		3
Hort. 350	3	
Botany 110		3
Botany 490	1	
Botany 105	3	
Botany 498		1-3
Electives**	3	2-4
	<hr/> 19 $\frac{1}{2}$	17 $\frac{1}{2}$

****The student is advised to consult with his advisor on these electives.**

BUSINESS TECHNOLOGY

Accounting

Competent accountants with associated business experience are in great demand in both the industrial and business fields. The following two-year course will prepare a student for efficient and profitable service in the business field.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Health 130		2
Physical Education	½	½	Physical Education	½	½
Accounting 201 or 211 ..	5		B.E.O.M. 320		3
Accounting 212		5	Statistics 231	3	
**Mathematics 101			Accounting 255	2	
or			Accounting 301		5
Statistics 131		3-2	Economics 111	3	
*B.E.O.M. 101	2		Business Management		
B.E.O.M. 206		2	347		3
B.E.O.M. 305	3		Business Management		
Elective		1	342	3	
	<hr/>	<hr/>	Electives	<hr/>	<hr/>
	15½	15½		16½	16½
		-16½			

*No credit allowed if student has had one year of typewriting in high school.

**With 1½ years of high school algebra, this course may be omitted.

Business and Office Management

The course below is outlined for students who are interested in becoming secretaries. Students who have a high degree of skill in shorthand and type-writing upon entering the Technical and Semi-Professional Institute may substitute appropriate courses in consultation with the department chairman.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Health 130	2	
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
*B.E.O.M. 111	4		B.E.O.M. 311, 312	4	4
B.E.O.M. 112		4	B.E.O.M. 204	2	
**B.E.O.M. 101	2		B.E.O.M. 220		3
B.E.O.M. 203		2	B.E.O.M. 370	3	
B.E.O.M. 206	2		Accounting 201 or 211 ..		5
Economics 111		3	Business Management		
***Clothing and			342	3	
Textiles 110	2		Elective		2
Elective		2			
	<u>15½</u>	<u>16½</u>		<u>16½</u>	<u>16½</u>

*No credit allowed if student has had one year of shorthand recently in high school.

**No credit allowed if student has had one year of typewriting in high school.

***Elective, for girls only.

Commercial Art or Advertising

This close relationship and dependency of commerce and advertising to art is acclaimed in every current magazine. The associated problems and skills in this field of technology are studied and partially mastered in the following two-year course.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Art 250	2	
Health 130	2		Art 227		2
Art 122	3		Art 310	2	
Art 306		3	Art 312		2
Art 239	2		Art 341	2	
Art 233		2	Art 343		2
Art 263	2		Art 342	2	
Art 256		2	B.E.O.M. 220	3	
Business Management			Accounting 201 or 211 ..		5
347		3	Business Management		
Electives	2	1	315	3	
	<u>16½</u>	<u>16½</u>	Elective		3
				<u>16½</u>	<u>16½</u>

ENGINEERING TECHNOLOGY

Civil Technician

The national highway expansion and extension program, local and national interest in building construction, perpetual need for land survey, and many other employment sources have created a demand for civil engineering technologists. They become members of the engineering team to aid the civil engineer in designing, constructing, and maintaining civil engineering projects in all areas. The following curriculum is designed to give the student basic and technical training to make him a needed and an efficient aid to the civil engineer.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	C.E. 320	3	
English 111, 112	3	3	Religion	2	2
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	E.T.		2
Math 121, 122	4	4	E.T. 216		3
Physics 105, 106	3	3	E.T. 205, 206	3	3
Drawing 110	2		Drawing 455	2	
Drawing 111		2	Drawing 210		2
Engineering			Drawing 257		2
Technology 101	3		E.T. 210	3	
Health 130		2	E.T. 212		2
			E.T. 211	3	
			E.T. 213	2	
			E.T. 214		2
	<hr/> 17½	<hr/> 16½		<hr/> 18	<hr/> 18

Drafting Technician

A drafting technologist is in great demand in all areas of scientific research and engineering development. The following course is designed to prepare the student for employment in industries and laboratories requiring the service of a skilled draftsman and designer of mechanical instruments. The drafting technician gives technical assistance in tool and plant inspection and maintenance and in other areas where his skills are needed.

Freshman Year					
	F	S		F	S
Religion	2	2	Drawing 410, 455	3	3
English 111, 112	3	3	Drawing 449, 495	3	3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Ind. Ed. 130	2	
Math 121, 122	4	4	Ind. Ed. 125, 230	2	2
Physics 105, 106	3	3	E.T. 205		3
Drawing 155, 156	2	3		<hr/> 17½	<hr/> 16½
Drawing 110, 111	2	2	Sophomore Year		
Economics 461	2		Architectural Option		
	<hr/> 18½	<hr/> 17½		F	S
Sophomore Year			Religion	2	2
Mechanical Option			Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
	F	S	Drawing 355, 356	3	3
Religion	2	2	Drawing 255, 256	3	2
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Drawing 310, 257	3	2
Drawing 210	2		Drawing 210, 455	2	2
Drawing 310, 311	3	3	Ind. Ed. 100		3
			Ind. Ed. 310, 311	3	3
				<hr/> 16½	<hr/> 17½

Electrical Technology

The electrical technician is in great demand in industry throughout the country. He serves the electrical engineer in the installation, maintenance, inspection, and testing of electrical equipment. The following two-year course, including basic mathematics, science, and management, is outlined to give the student competence in electrical technology.

Freshman Year					
	F	S			
Religion	2	2	E.T. 241	3	
English 111, 112	3	3	E.T. 242		3
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	E.T. 221, 222	3	3
Math 121, 122	4	4	E.T. 223, 224	3	3
Physics 105, 106	3	3	E.T. 225, 226	2	2
E.T. 101, 102	3	3		18	18
Drawing 110	2		Sophomore Year		
Health 130		2	Electronics Option		
	17 $\frac{1}{2}$	17 $\frac{1}{2}$		F	S
Sophomore Year			Religion	2	2
Power Option			Drawing 111	2	
	F	S	E.T. 231, 232	5	5
Religion	2	2	E.T. 221, 222	3	3
Drawing 111	2		E.T. 205, 206	3	3
E.T. 202		2	E.T. 202		2
E.T. 205, 206	3	3	E.T. 235, 236	2	2
				17	17

Mechanical Technology

A student in Mechanical Technology will be given the fundamentals in mathematics, physics, and engineering, and the applications of these subjects to the design, construction, and operation of machinery. Use of the University's mechanical laboratories permits him to gain a wide range of experience and skills with power equipment. By completing the courses outlined below, the mechanical technician may find employment in a number of industrial plants and laboratories.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English 111, 112	3	3	E.T. 202		2
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	I.E. 130, 230	2	2
Math 121, 122	4	4	I.E. 335	2	
Physics 105, 106	3	3	Drawing 311	3	
E.T. 101	3		Drawing 410		3
Drawing 110	2		E.T. 205, 206	3	3
Drawing 111		2	E.T. 216		3
Health 130		2	E.T. 241	3	
	17 $\frac{1}{2}$	16 $\frac{1}{2}$	E.T. 242		3
			E.T. 243	3	
				18	18

Engineering Technology

Lower Division Courses

- 101 (101, 102). Engineering Technology. (3:2:3) F.S. Staff
 Elementary theory of electricity, including direct and alternating current and magnetism.
- 102 (102, 103). Engineering Technology. (3:2:3) F.S. Prerequisite: E.T. 101. Staff
 Continuation of Engineering Technology 101 with additional work on alternating current equipment. Elementary electronic theory, including the application of vacuum tubes in detector, amplifier, oscillator, and circuits.

- 110 (110). Maintenance and Trouble Shooting.** (2:1:3) F. Staff
Proper use and maintenance of electronic equipment, trouble shooting techniques, and the use of electrical measuring and testing devices.
- 202 (New). Contracts and Specifications.** (2:2:0) S. Staff
Preparation and interpretation of engineering and construction contracts and specifications.
- 205, 206 (205, 206, 207). Engineering Materials, Equipment and Testing.** (3:2:3) F.S. Staff
A survey of the material generally used in erecting structures and machines with special emphasis on their properties and interrelationships.
- 210 (New). Concrete Technology.** (3:2:3) F. Prerequisites: Physics 106, Math 122. Staff
A study of the manufacturing and testing of concrete materials and mixtures. Forming, handling, placing, and treatment of concrete structures. Concrete reinforcing design and application.
- 211 (New). Structural Technology.** (3:2:3) F. Prerequisites: Physics 106, Math 122. Staff
Structural analysis, loading conditions causing compression, tension, shear, torsion, and bending. Practical design procedures for beams, girders, columns, footings and trusses.
- 212 (New). Hydraulics.** (2:2:0) S. Prerequisites: Physics 106, Math 122. Staff
The basic principles of hydraulics. Hydrostatic pressures on walls, tanks and cofferdams, etc. Hydraulic flow through pipes, channels and flumes including city water and sewerage system layouts.
- 213 (New). Soil Mechanics.** (2:2:0) F. Prerequisites: Physics 106, Math 122. Staff
The characteristics of soils, soil water, seepage and uplift pressures; shear strength of soils, pressure and stability analysis for support of building footings, etc.
- 214 (New). Highway Technology and Materials.** (2:2:0) S. Prerequisites: Physics 106, Math 122. Staff
The fundamentals of highway design and layout including curves, grades, sight clearance, etc., construction of roadways, drainage, culverts, bridges, intersections and overpasses.
- 215 (215). Statics—Introductory Concepts of Mechanics.** (2:2:0) F. Prerequisites: Physics 105, Math 122. Staff
Force systems and problems of equilibrium with emphasis on engineering problems covering structures, machines, distributed forces, and friction; including graphic and algebraic solutions.
- 216 (215, 216). Applied Mechanics.** (3:3:0) S. Prerequisites: Physics 106, Math 122. Staff
Force systems and problems of equilibrium of rigid bodies with emphasis on problems covering structures, frames, machines and friction; moving systems considering force, mass, acceleration, impulse and momentum, work and energy and mechanical vibrations.
- 221 (261, 262, 263). Electrical Machines.** (3:2:3) F. Prerequisites: Math 122, Physics 107, E.T. 102. Staff
A study of the fundamentals of direct and alternating current machinery including motors, generators, transformers, their control and operation.
- 222 (261, 262, 263). Electrical Machines.** (3:2:3) F. Prerequisite: E.T. 221. Staff
A continuation of the study of electrical machines with emphasis on industrial electronic control systems.

- 223, 224 (New). Electrical Power.** (3:3:0) F.S. Prerequisites: E.T. 102, Physics 106, Math 122. Staff
Considers the generation, transmission, and distribution of electric power; electrical and mechanical analysis of power systems; system stability, lightning, and fuse protection.
- 225, 226 (New). Practical Wiring and Illumination.** (2:2:0) F.S. Prerequisites: Math 122, Physics 106, E.T. 102. Staff
Design of low voltage power systems for residential, commercial, and industrial projects. Basic principles of illumination including layout and design of lighting systems for commercial buildings, roadways, sports, manufacturing plants, etc.
- 231 (241, 242, 243). Electronics.** (5:3:6) F. Prerequisites: Math 122, Physics 106, E.T. 102. Staff
An advanced study of electron tubes and circuits such as resonant circuits, coupled circuits, voltage and power amplifiers, etc.
- 232 (241, 242, 243). Electronics.** (5:3:6) S. Prerequisite: E.T. 231. Staff
A continuation of Engineering Technology 231 including such things as oscillator, amplitude and frequency modulation; detection and communications circuits, also specialized tubes, devices, and circuits.
- 235, 236 (New). Transistors, Servos and Magnetic Amplifiers.** (2:2:0) F.S. Prerequisites: E.T. 102, Physics 106, Math 122. Staff
Transistors, servo-mechanisms and magnetic amplifiers including their associated equipment, operational characteristics and applications.
- 241 (New). Elementary Heat Power.** (3:2:3) F. Prerequisites: Math 122, Physics 106. Staff
Basic laws of thermodynamics; properties of systems; properties of gases, liquids, and vapors; pressure-volume and temperature-entropy planes; fuels and combustion; heat transfer.
- 242 (New). Power Plants.** (3:2:3) S. Prerequisites: Physics 106, Math 122, E.T. 102. Staff
Classification, performance, capacity and details of boilers and their auxiliaries and accessories; applications of steam power; work, energy and efficiencies of engines and turbines; hydro power.
- 243 (New). Air Conditioning, Heating and Ventilation.** (3:3:0) F. Prerequisites: E.T. 102, Math 122, Drawing 113. Staff
A study of evaporative and refrigeration type air conditioning, space heating and ventilating including design calculations, installation drawings, and practices.

Associate Thane Packer (chairman, 205
Professor: SFH).

Youth Leadership



A major in youth leadership is given through the College of Physical Education. A new department in a unique college, it provides for an unusual area of service training and leadership development. Some colleges and universities have for many years offered courses designed to train men and women for careers with youth agencies, but none have offered a training program so specifically dedicated to preparing for leadership in Scouting.

As a supplement to the home, church, school, and community, Scouting has become an important factor in developing an intellectual, moral, and spiritual fiber that has strengthened the lives of American youth. An early recognition of its possibilities led the L.D.S. Church authorities to adopt it, and Brigham Young University has created a department designed to train men and women to become skilled youth leaders in this field.

The department objective is two-fold: (1) to train college men for career opportunities in the field of youth leadership, particularly Scouting, for which there is great demand, and (2) to train college men and women in the basic principles and skills of Scouting to the end that they can better serve their Church and community by rendering skilled volunteer direction to the youth of the Church and others who may come under their influence.

Youth Leadership Major

A student majoring in youth leadership should take the following courses: Youth Leadership 172, 173, 174, 177, 205, 206, 275, 301, 302, 312, 332, 410, 490, 491; Health Education 121, 325; Physical Education 156, 164; Recreation 387, 502, 503.

Youth Leadership Minor

Students minoring in youth leadership should take the following courses: Youth Leadership 172, 173, 174, 205, 206, 312, 410, and other approved courses in allied fields.

Lower Division Courses

172 (372). Cub Leadership. (2:2:0) F.

Packer

Designed to teach men the organization, administration, and purpose of cub scouting as a basic experience of the American home. Techniques, skills, and methods of den and pack operation are explored.

- 173 (373). Boy Scout Leadership.** (2:2:0) S. Packer
Designed to teach men basic principles of youth leadership and their application to individual and group situations. The acquisition of skills and techniques calculated to command respect and admiration of boys in classroom or activity situations is emphasized. Laboratory methods frequently applied.
- 174 (374). Explorer Leadership.** (2:2:0) F. Offered 1961-62 and alternate years. Packer
Arranged to bring to students the latest techniques in working with young men 14-17 years of age. Particular attention will be given to the explorer program and how the sponsoring institution may use it to further its standards as related to character and citizenship.
- 177 (377). Scouting in the L.D.S. Church.** (2:2:0) F.S. (G-R) Packer
Designed to acquaint students interested in L.D.S. Church relationships with functions of Cubbing, Scouting, and Exploring as major areas of the Church's youth program. Deals with the program's application to the home, priesthood, and objectives and standards of the Church. Ward and Stake administration, auxiliary and missionary relationships are identified and national and local council evaluations are made.
- 178 (New). Guide Patrol and Den Mother Leadership.** (2:2:0) F.S. Packer
Designed primarily for women interested in skills and techniques that have application to youth leadership from age 8-12. Particular attention is given to simple handicrafts, outdoor skills, and group discipline practices that may be applied to Primary Guide and Trekker leadership. Laboratory experiences are featured. Men may register for this course.
- 205, 206 (305, 306, 307). Council Operating Committees and Their Function.** (3:3:0) F.S. Packer
A study of objectives and program of local councils, the function and purpose of operating committees within the council, and how they combine the national and local program features as an institutional service for leader and boy.
- 275 (375). Program Building.** (2:2:0) S. Packer
Explores the recommended method of program planning on a unit level and develops laboratory situations for a practical application of these methods in Cubbing, Scouting, and Exploring.

Upper Division Courses

- 301 (301). National Camp School.** (1:lecture and lab in an organized camp situation for one full week) Su. Nat'l Staff
Theory and application of principles of camp administration, camp aquatics, and camp program. Taught by National Council (Boy Scouts of America) at a selected local council camp. Recommended for youth leadership majors only.
- 302 (302). Summer Camp Administration.** (1:2 weeks lecture and lab at an organized camp) Su. Local Council Staff
Provides an actual administrative experience as a staff member of a local council summer camp. The course may be extended to additional summer employment for some students. Selection of camps arranged for by the department. Required of youth leadership majors only.
- 312 (311, 312). District Committee and Commissioner Service.** (3:3:0) F. Offered 1960-61 and alternate years. Packer
Combines a study of the operation and function of a district committee of a local council with duties and techniques associated to the service of commissioners to council, district, and neighborhood.

- 332 (332). Scouting Sponsors and Public Relations.** (1:1:0) S. Offered 1961-62 and alternate years. Packer
A study of institutional acceptance of Scouting as a major youth program in America. It defines the relationships of the major religious and civic sponsors of Scouting to the Boy Scouts of America and explores the public relations program of Scouting on the local and national council level.
- 410 (310). National and Local Council History and Development.** (2:2:0) S. Offered 1961-62 and alternate years. Packer
Traces the evolution of the program of Scouting in America and defines the organization, functions, and services of the national council to the local council; and the organization, functions, and services of the local council to the sponsoring institution and the boy.
- 490 (390). Field Activity Course.** (1:1:1) S. Offered 1960-61 and alternate years. Packer
A study and laboratory experience in traditional council events designed to win public acclaim, enrich program experience of boys, and develop financial support for the local council. Skill, display, service, and special meeting events are given specific attention.
- 491 (391). Conference Planning Techniques.** (1:1:0) F. Offered 1960-61 and alternate years. Packer
Theory and practice of planning conferences. Various techniques of pre-conference involvement. Laboratory: Boy Scout Pow Wow and Explorer Conference on campus.

Zoology and Entomology



Professors: Hayward (chairman, 263 B), V. Tanner.

Associate Professors: Allen, Beck, Chapman, W. Tanner.

Assistant Professors: Allred, Wood.

Instructor: Simmons.

Zoology is the basic animal science. The courses offered in this department are designed to meet the needs of the students of the University in the following ways:

1. provide courses suitable to the general education requirements in the biological sciences
2. contribute toward the training of prospective teachers in the biological sciences
3. provide basic and advanced training for persons wishing to major and attain a bachelor's or master's degree in zoology
4. offer service courses for the benefit of the students majoring in other departments who need supporting work in the zoological sciences
5. furnish courses required in pre-professional work toward medicine, dentistry, and other medical sciences

Requirements for a Major

It is desirable that students select a major at the earliest possible date in their college program. A candidate for a bachelor's degree who elects to major in the Department of Zoology and Entomology will be assigned an adviser who will assist him in the organization of his entire program. The course of study must include (1) the general education requirements of the University, (2) the general departmental requirements, and (3) one of the optional sequences in zoology depending upon the student's special interests. Any modification of these requirements must be approved by the chairman of the department.

The general departmental requirements for all majors in zoology include courses 105, 176 or 376, 212, 213, 385, 496 and 497. Prospective majors who have completed a full year of biology in high school may omit Zoology 105 provided they pass an examination dealing with the general principles of biology.

Optional Sequences

Natural History: This option is intended for students interested in the natural history, ecology and geographical distribution of mammals, birds, reptiles, fishes, and invertebrates. Such training is preparatory for careers in game management, museum services, biological surveys and fresh water or marine biology as they apply to the National Park Service, Fish and Wildlife Service, and other agencies. Courses recommended for this sequence are 230, 363, 365, 372, and at least 4 hours selected from 332, 343, 345, 346, 347, 417 or 551 with the approval of the departmental adviser. Supporting courses in botany, the physical sciences, and mathematics should be included.

Anatomy and Experimental Zoology: This division is designed for students who plan advanced training in such fields as comparative anatomy, histology, physiology, genetics, radiation biology, and embryology. This training may lead toward university teaching, research and medical sciences. The following courses are recommended: 363, 365, 370, 373, and at least 3 hours selected from 230, 417, 561, 573, 578 with the approval of the departmental adviser. Supporting courses in bacteriology, botany, chemistry, physics, and mathematics should also be taken.

Parasitology and Epidemiology: This option is designed for students who plan to work in such fields as helminthology, medical arthropodology, and protozoology. This training may be applied to public health services, institutional research, and private practice. The following courses are recommended: 230, 333, 363, 365, 417, and at least 4 hours selected from 330, 332, 345, 346, 347, 370, 372, 551 with the approval of the departmental adviser. Supporting courses should be selected in bacteriology, botany, chemistry, physics, and mathematics.

Entomology: A variety of career opportunities in both pure and applied phases of entomology are available to qualified persons. Teaching and research positions in educational, industrial, and governmental organizations, and numerous positions as technicians in museums, quarantine inspection, insect control, and other special services are examples of available opportunities. Recommended courses for this option are as follows: 230, 330, 332, 363, and at least 4 hours selected from 333, 334, 365, 370, 372, 551 with the approval of the departmental adviser. Supporting courses in bacteriology, botany, chemistry, and mathematics should also be taken.

Pre-medical and pre-dental students may elect any of the optional sequences.

Major and Minor for Secondary Teachers

The preparation and certification of teachers in biology in secondary schools is a cooperative program between the departments dealing with the biological sciences and the College of Education. Prospective biology teachers should complete either a zoology major and botany minor, or a botany major and zoology minor.

Thirty hour (major) list: 105, 164, 212, 213, 230, one course selected from 343, 345, 346 or 347, 372, 376, 551.

Sixteen hour (minor) list: 105, 164, 230, 343 or 345, 346 or 347, 372.

Students who bypass Zoology 105 through an examination are required to complete an additional three hours of electives in zoology to bring the total credit up to thirty hours for the major or sixteen hours for the minor.

Botany Minor: See Botany Department for list of subjects.

Suggestions for a Minor

A minor in Zoology and Entomology should include at least the following courses: 105, 176, 212, 213, and 230.

Graduate Program

The Department of Zoology and Entomology offers the Master of Science and Master of Arts degrees. For details of requirements for these degrees see the Graduate Catalog.

Lower Division Courses

- 105 (105). Animal Biology.** (3:2:3) F.S.Su. (G-BS) Staff
An introduction to the basic principles of biology with special emphasis on the morphological, anatomical, physiological, and ecological relationships of man and other animals.

- 164 (164). Human Anatomy and Physiology.** (3:2:2) S.Su. (G-BS) Prerequisite: Zoology 105. Chapman
Designed especially to meet the needs of students in physical education and family living. Not open to pre-medical students. (See Zoology 264).
- 176 (176). Heredity.** (3:3:0) F.S.Su. (G-BS) Prerequisite: Zoology 105 or Botany 101. Allen, W. Tanner
Principles of inheritance and eugenics. Designed for students not majoring in biological science. Biology majors should take course 376.
- 212 (212). Invertebrate Zoology.** (4:1:6) F.S. (G-BS) Prerequisite: Zoology 105. Beck
A basic course in the invertebrates designed to meet the needs of biology majors, pre-medical and pre-dental students.
- 213 (213). Vertebrate Zoology.** (4:2:4) F.S. (G-BS) Prerequisite: Zoology 105. Hayward
A basic course in the structure, classification, and natural history of the vertebrate animals.
- 230 (230, 321). Introductory Entomology.** (5:3:4) F. Prerequisite: Zoology 105. V. Tanner
The beginning course in the structure, classification, and life histories of the classes of arthropods.
- 261 (109, 261). Human Anatomy and Physiology for Nurses.** (4:3:2) F.S. (G-BS) Prerequisite: Zoology 105. Chapman
Open only to students of nursing and physical therapy.
- 264 (New). Human Anatomy and Physiology.** (5:3:4) S. Prerequisite: Zoology 105. Chapman
A more detailed course than 261 designed especially for students of physical education and related subjects.

Upper Division Courses

- 315 (310, 315). Natural History.** (3:2:2) S. (G-BS) Staff
A course designed for non-biology majors and dealing with common animals.
- 330 (330, 630). Insect Morphology.** (5:2:6) S. Prerequisite: Zoology 230. Wood
An introduction to the principles of insect morphology. Both external and internal anatomy are studied.
- 332 (332). Insect Classification.** (4:1:6) F. Prerequisite: Zoology 230. Wood
The basic principles of animal taxonomy with special emphasis on insects. Students are advised to consult the instructor and begin collecting insects prior to registration.
- 333 (333). Medical Entomology.** (2:0:4) S. Prerequisite: Zoology 332. Allred
Study of arthropods that attack man and domestic animals and that transmit pathogenic organisms and other parasites.
- 334 (334). Economic Entomology.** (2:1:2) F. Prerequisite: Zoology 230. Wood
Life histories and control of insect pests, exclusive of medically important forms.
- 343 (343). Fishes.** (2:0:4) F. Prerequisite: Zoology 213. V. Tanner
The anatomy, classification and distribution of the fishes of the Great Basin.
- 345 (345). Reptiles.** (2:0:4) S. Prerequisite: Zoology 213. W. Tanner
The classification, distribution, and natural history of reptiles and amphibians.

- 346 (346). Birds.** (2:0:4) S. Prerequisite: Zoology 213. Hayward
The classification, field and laboratory identification, and natural history of birds.
- 347 (347). Mammals.** (2:0:4) F. Prerequisite: Zoology 213. Hayward
The classification, field and laboratory identification, and natural history of mammals.
- 357 (357). Natural and Human Resources.** (2:2:0) F. V. Tanner
Conservation of natural resources particularly as they relate to the health and well-being of man.
- 363 (363). Comparative Vertebrate Anatomy.** (4:2:4) S. Prerequisite: Zoology 213. W. Tanner
A comparison of the body systems of the major vertebrate groups from the fishes to the mammals.
- 365 (365). Animal Physiology.** (4:2:4) F. Prerequisites: Zoology 213, Chemistry 111. Chapman
A study of the function of the body systems of animals.
- 370 (370, 371). Vertebrate Histology.** (3:1:4) S. Prerequisite: Zoology 213. Hayward
Microscopic studies of the tissues and organs of vertebrates and practice in the preparation of microscope slides.
- 372 (372). Biological Techniques.** (1:0:2) F. Hayward
Designed to help prospective teachers and biologists in the techniques of preparing biological objects and materials for demonstration or study.
- 373 (373). Vertebrate Embryology.** (4:2:4) F. Prerequisite: Zoology 213. Staff
Development of the body systems of vertebrates with special emphasis on the frog, chick, and pig.
- 376 (376). Genetics.** (4:3:3) F. (G-BS) Prerequisite: Zoology 105 or Botany 101. Allen
An introductory course designed for majors in biological science.
- 385 (385). History of Biology.** (2:2:0) F. V. Tanner
The development of biological thought from the Grecian period to the present.
- 417 (417). Parasitology.** (3:1:4) F. W. Tanner
A study of animals that are internal parasites of man and domestic animals.
- 496, 497 (496, 497, 498). Senior Year Seminar.** (1:1:0) F.S. Staff
A review of current trends and concepts in zoology.

Advanced Undergraduate or Graduate Courses

- 510 (510). Zoological Literature.** (2:1:2) F. Wood
Designed to acquaint the student with the literature of zoology for research and thesis writing.
- 531 (631). Insect Physiology.** (2:1:2) F. V. Tanner
A study of the physiological processes of insects.
- 533 (533). Field Entomology.** (2:0:4) F.S. Prerequisite: consent of instructor. Beck, Wood
Projects in insect biology or ecology are assigned to give field experience in entomology that will prepare the student for research.

- 538 (538). **Immature Insects.** (2:0:4) S. Prerequisite: Zoology 230. V. Tanner, Wood
The identification of eggs, nymphs, larval and pupae of local insects.
- 540 (540). **Aquatic Zoology.** (2:0:4) S. Prerequisite: consent of instructor. Staff
A study of the organisms living in freshwater habitats.
- 551 (550, 551). **Animal Ecology.** (4:2:4) F. Prerequisites: Zoology 212, 213, 230, Botany 110. Hayward
The principles of ecology as applied particularly to animals in natural communities. Saturday field trips.
- 555 (655). **Principles of Zoogeography.** (2:2:0) S. V. Tanner
A study of factors that have influenced the present distribution of land and fresh water animals.
- 561 (New). **Advanced Vertebrate Anatomy.** (3:1:4) F. Chapman, W. Tanner
Detailed studies of the anatomy of the vertebrates including man.
- 573 (573). **Experimental Embryology.** (2:1:3) Arr. Offered alternate years. Allen
Prerequisite: Zoology 373.
Concepts and techniques related to normal development and its modifications.
- 576 (576). **Advanced Genetics.** (2:2:0) F. Offered alternate years. Prerequisite: Zoology or Botany 376. Allen
A review of modern concepts of genetic mechanisms.
- 578 (578). **Radiation Biology.** (2:2:0) S. Offered alternate years. Prerequisites: Physics 202; Chemistry 112; Zoology 365. Allen
Elementary theory of radiations, interaction with matter, biological effects, and health physics.
- 579 (579). **Radiation Biology Laboratory.** (1:0:3) S. Offered alternate years. Allen
Prerequisite: concurrent registration in Zoology 578.
- 591 (591). **Special Problems in Zoology.** (1-2:Arr.:Arr.) F.S.Su. Staff
Open to students prepared to do advanced independent work in zoology.

Graduate Courses

- 610 (610). **Systematic Zoology.** (2:1:2) F. V. Tanner
Principles of taxonomy, morphology, nomenclature, genetics, ecology, and distribution as they affect animal populations in nature.
- 612 (512, 524). **Advanced Invertebrate Zoology.** (2-4:Arr.:Arr.) F.S.Su. Allred, Beck
Systematic course work in the morphology, anatomy, taxonomy, ecology, and natural history of selected groups of invertebrates.
- 625 (625, 628). **Advanced Medical Arthropodology.** (2-4:Arr.:Arr.) F.S.Su. Allred, Beck
Designed to acquaint the student with the identification, distribution, seasonal occurrence and host relationships of medically important arthropods.
- 639 (639). **History of Entomology.** (1:1:0) F. V. Tanner
The development of entomology in the United States.
- 643 (643). **Advanced Ichthyology.** (2:1:2) F. V. Tanner
Advanced studies in the fishes of the Great Basin area.
- 645 (645). **Advanced Herpetology.** (2:1:2) S. W. Tanner
Anatomy, life history, and taxonomy of reptiles and amphibians are studied.

- 662 (662, 663). Advanced Physiology.** (2-4:Arr.:Arr.) S. Chapman
Advanced studies in animal processes.
- 673 (673). Advanced Embryology.** (2:2:0) F. Offered alternate years. Allen
A review of modern concepts of the mechanisms of development.
- 691 (690, 691, 692). Research.** (1-4:Arr.:Arr.) F.S.Su. Staff
Students may work on research problems under the direction of the
several members of the departmental staff.
- 696, 697 (696, 697). Graduate Seminar.** (1:1:0 ea.) F.S. Staff
A review of current trends and concepts in zoology as they relate to the
graduate student.
- 699 (699). Thesis for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Staff

Adult Education and Extension Services

President of the University: Ernest L. Wilkinson

Extension Representative in the Administrative Council: Harvey L. Taylor

Extension Council: Composed of Dean's Council

Office of the Dean

Dean: Harold Glen Clark

Assistant to Dean: Phileon B. Robinson, Jr.

Coordinator of Centers and Leadership Weeks: Richard H. Henstrom

Department of Community Education, Chairman D. Chris Poulos

Off-Campus Credit and Telecourses, Supervisor William Leach

Community Lectures and Courses, Supervisor Hartley Fredrickson

Extension Publications, Supervisor Loree Brown

Department of Home Study, Chairman Lula Clegg

Department of Travel Study, Chairman Robert C. Taylor

BYU-Los Angeles Adult Education Center, Chairman David N. Chalk

BYU-Ogden Adult Education Center, Chairman George S. Haslam

BYU-Provo Campus Adult Education Center, Chairman Robert H. Teichert

Evening School, Supervisor Ilene Webb

Special Courses and Conferences, Supervisor Richard Hirtzel

Leadership Week, Supervisor Sharon Moser

BYU-Ricks Adult Education Center, Chairman J. Kenneth Thatcher

Assistant to the Chairman Seth Bills

BYU-Salt Lake Adult Education Center, Chairman Lynn M. Hilton

Forum Assembly and Special Programs, Supervisor Roscoe Grover

Department of Audio-Visual Communications, Chairman LeRoy L. Lindeman

Assistant to the Chairman Evan J. Memmott

Bookkeeper

Librarian Lucile Long

Circulation Manager Lynn Howarth

Booking Supervisor Afton Porter

Shipping Supervisor Mel Schetselaar

Deliveries and Equipment Supervisor Dee Lister

Production Manager Doug Johnson

Photographic Supervisor Wally Barrus

Service Manager Charles Turner

Public Address and Recording Supervisor Francis Boyer

Equipment Repair Supervisor Parley Rasmussen

HISTORY AND PURPOSE

The purpose of the Extension Services is to bring the educational programs and services of the regular University day school to adults who are not now receiving them. It was called the Extension Division when it was established in 1921. At that time its program combined publicity, off-campus programs, lectures, and community services with the more formal classroom offerings and credit courses both by correspondence and lecture.

Some of these earlier functions have been assumed, in part, by special committees or departments in the University. New services, such as motion pictures and audio-visual aids, have been expanded or added to the Extension Services. Full-time employees have replaced those who formerly did extension work during their off-time hours. The extent of the territory served has increased. Bulletins of information on evening school courses, home study subjects, lectures, and publications are available upon request.

Many teachers of the courses scheduled through the Extension Services are chosen from the regular B.Y.U. faculty. In addition, a special part-time off-campus faculty is available and is listed in the Special Instructors or Lecturers Section of this catalog.

COMMUNITY EDUCATION

The Community Education department of the Adult Education and Extension Services has five areas which service those areas not administered by a B.Y.U. adult education center.

Descriptions of these departments are listed below. More detailed information and catalogs may be obtained by writing Community Education, Adult Education and Extension Services, Brigham Young University, Provo, Utah.

Off-Campus Credit. A request for a credit course is filled by the scheduling of a University teacher to travel to an off-campus location to conduct the course. Credit courses give regular Brigham Young University credit and may be used to renew a teaching certificate, to apply toward a degree, or to broaden one's intellectual and spiritual horizons. (Ordinarily such classes meet one evening a week for eleven weeks. A wide choice of courses is available. Courses listed in the body of this catalog, subject to the approval of the dean and department chairman concerned, may be scheduled off campus.)

Telecourses. The Brigham Young University provides courses through educational television. The school has sponsored several courses over both educational and commercial television facilities. It is hoped that the general public will indicate their interest in B.Y.U. telecourses for credit and non-credit. Further information is available upon request.

Discussion Groups. Materials for various discussion groups are available for a nominal fee. Discussion leaders and organizational helps are available for clubs and other organizations. Subjects include: Ways of Mankind, World Politics, Introduction to the Humanities, Economic Reasoning, You and Your Community, Parenthood in a Free Nation, Discovering Modern Poetry, Looking at Modern Painting, Aging in the Modern World, Great Books, American Foreign Policy, and others.

Community Lectures and Courses. The Community Lectures and Courses section of the Adult Education and Extension Services was created to present non-credit programs off-campus—lecture series, institutes, classes appealing to particular interest groups, conferences, forums, and special promotions. The varied curriculum includes programs in religion, the fine arts, engineering, athletics, any many specialized fields. Since this department is on a non-credit basis, its program need not be concerned specifically with filling requirements, but may be geared to the special needs and desires of the group. Presentations are informative and informal, but of high academic quality. Persons desiring courses

or lectures to be presented in their locale may initiate them by contacting this office.

Off-Campus Leadership Weeks. The leadership week held annually on the Brigham Young University campus has gained a nationwide reputation. As the University expands its services, there is the possibility that numerous leadership weeks may be held in various areas where Church population is sufficient to support this undertaking. This department is presently in charge of the Arizona and Northern California leadership week program.

EXTENSION PUBLICATIONS

Extension Publications produces numerous lectures, pamphlets, and other material for distribution to students, alumni, and patrons of the University. These materials are sold at cost. The following categories will indicate the publications available:

Speeches: Devotional and forum assembly speeches, as well as many lecture series, are reproduced in mimeographed form by the Extension Publications Department. These are sold at cost. At the end of each school year, complete bound sets of the assembly speeches may be purchased. These are particularly useful in ward and home religious libraries.

Pamphlets: Printed booklets containing addresses of General Authorities: "A Style of Our Own," Elder Spencer W. Kimball; "Chastity," Elder Mark E. Petersen; "Be Ye Clean," Elder Spencer W. Kimball; "Building Your Marriage to Last Forever," Elder LeGrand Richards; "Tragedy or Destiny," Elder Spencer W. Kimball. Also included, "Tobacco and Cancer," by Dr. Alton Ochsner; and "Family Fun With Games," by Israel C. Heaton.

Lecture Series: Each publication contains lectures on religious subjects. Among those available are "Joseph Smith, The Extraordinary," "Know Your Doctrine and Covenants," "The Trial of the Stick of Joseph," "Eden to Egypt," and "Heroines in the Church."

Leadership Week Lectures: Numerous publications are available from various leadership weeks held on the campus and in other areas. Missionaries, teachers in Sunday School classes and other Church auxiliaries, speakers, and students of the scriptures find these publications stimulating because of the timely stories, interpretations of current events, faith-promoting experiences, and supplemental instructional material which they contain.

For full details about these and available publications and prices, write to Extension Publications, Brigham Young University, Provo, Utah.

HOME STUDY

Adult Education and Extension Services offers home study courses to aid in widening the educational horizons of the many people who cannot take college work in residence.

What is it? Home study is education by mail—instruction with a personal touch.

Why Home Study? Home study is for those who cannot take courses in residence, need courses for entrance requirements, need courses to complete high school, are teachers and need to qualify for certification, are serving their country in the armed forces, are Korean veterans and wish to maintain their entitlement, are working in industry and wish to acquire broader culture or to improve their skills, are professional people with a desire for continued intellectual and professional progress, or are desirous of pursuing some course for personal development and interest.

Catalog: A home study catalog is free to anyone so requesting. The catalog gives detailed information on all courses, fees, and registration.

USAFI and Korean Veterans: Brigham Young University has been approved to offer home study courses to the men and women in the armed forces and to Korean veterans.

Gifted High School Students: The Home Study Department of the Adult Education and Extension Services of Brigham Young University offers college courses to gifted high school seniors. The purpose of this program is to supplement the curriculum for gifted high school seniors who have time and ability to pursue a college course during their senior high school year.

Credit: The number of credit hours of home study course work that will apply toward graduation requirements is limited.

Examinations: Examinations are required in all correspondence courses unless otherwise stipulated.

TRAVEL STUDY

B.Y.U. travel-study programs are designed for students who wish to increase their knowledge and understanding of their own nation and of other lands and peoples through purposeful, educational travel under the direction of the University. Those who participate must be properly enrolled. Adults off campus, as well as individuals on campus, may qualify as students in this program. Participants must adhere to standards of the Church of Jesus Christ of Latter-day Saints.

All of the Brigham Young University travel-study programs are non-commercial, non-profit, educational projects. They are sponsored by a University which recognizes the value of organized educational travel experience and senses the importance of broadening cultural horizons and promoting international understanding and good will.

College credit is provided to all program participants who complete the study course as outlined by the academic department which co-sponsors the travel-study program.

Anticipated B.Y.U. 1961 Summer Programs

Europe

1. European Study Program—North
2. European Study Program—South
3. Peoples and Cultures of Europe
4. Russian Student Exchange

North America and Hawaii

1. Socio-Cultural Program to Hawaii
2. Eleventh Annual Church History Program

Latin America

1. Circle South America
2. Mexico Travel-Study Program

Residence Programs

1. Mexico Residence Program
2. French Residence Program at Quebec
3. German Residence Program
4. English Residence Program

Some of these programs are in the process of approval and organization as

this catalog goes to press and will be announced in further publications. For the current status of each program and detailed information write to Travel Studies Department, Brigham Young University, Provo, Utah.

B.Y.U. ADULT EDUCATION CENTERS

Sensing the obligation of the Church University to provide educational opportunities in harmony with L.D.S. standards for persons away from Provo, the Board of Trustees has established adult education centers. These centers offer the same service of adult education to the people of the center's area, including leadership week, as those offered to people who live near Brigham Young University. There is a limit as to the amount of credit that may be earned through classes at these centers which will apply toward a bachelor's or master's degree.

B.Y.U.-Provo Campus Adult Education Center

All courses conducted on the Provo campus by the Adult Education and Extension Services are conducted through the On-Campus Adult Education Department. The units of this department are listed below (Flexibility of programming is maintained to meet specific needs of adults and special groups. Business, industrial, civic, social, Church, and educational institutions are encouraged to contact this office if they desire special adult instruction.):

Evening School. On week-day evenings, classes are conducted on campus in areas of interest to adults who desire to improve or enrich their lives through part-time education.

Regular college credit equivalent to daytime classes is given for all evening school classes. Anyone wishing to do so may take a class on a non-credit basis as an auditor.

Veterans are eligible to enroll under the G.I. Bill if they meet the eligibility requirements of the Veterans' Administration.

There is published quarterly a class schedule of all classes offered. These class schedules, giving detailed information about all procedures, are available free of charge upon request. Courses listed in the Evening School schedule which do not receive ten or more registrations will be cancelled. Students who have registered in cancelled classes will be notified and invited to join other classes or will be given a full refund.

At scheduled times during each registration period, trained counselors are available who will aid students in making educational and vocational plans or in working through related personal problems. There is no charge or obligation to the student for these services.

Day students may enroll in Evening School classes on their regular registration card by picking up class cards marked "Section 90." An extra fee of \$2.00 per credit hour is charged for these classes.

One dollar is charged for each change slip presented after the first week of the quarter unless the action is caused by the Evening School.

Each student registered through the Extension Services who discontinues attendance at class **must** use the proper procedure to withdraw by coming to the Extension Center.

A pro-rated refund of tuition fees will be made to those who withdraw properly from evening classes during the first four weeks of the quarter. There is no refund for withdrawals occurring after the fourth week of the quarter.

Time and place of Evening School registration are listed in the general school calendar in the front of this catalog. Students registering for only evening classes register from 5:00 to 9:00 p.m. Dates will be announced in current schedules.

Special Courses and Conferences. This section, organized to meet the academic needs and desires of many different age and educational background groups, provides flexible, varied credit and non-credit programs on the Brigham Young University campus. It offers courses either for specific interest groups or for the public at large.

Offerings, presented on a high academic level, are informative in nature, yet informal and flexible as to content and presentation. Courses are generally six to ten weeks in length.

members of the regular B.Y.U. faculty and other professional and academic

The instructional staff of Special Courses and Conferences is composed of specialists. Tuition fees vary according to the length of the course or the special expenses which may be involved. Persons representing groups which desire special courses or lectures on the B.Y.U. campus may have such courses initiated by contacting this department.

The Special Courses and Conferences section presents programs in the following categories:

Conferences. Programs which are conducted for professional groups in concentrated, intensive sessions, usually over a period of one day to one week. These groups often hold business meetings in addition to considering academic materials.

Workshops and Clinics. Programs which involve a high degree of participation and activity by registrants and which include learning of professional and avocational skills.

Special Courses. Credit or non-credit courses which do not fall into the administrative areas of regular classes or of evening school.

Lectures. Short discourses on various academic subjects, sometimes presented in a series or singly.

Seminars. Courses for groups of supervised students or professional persons doing research or advanced study.

On-Campus Leadership Week. For thirty-seven years, adults from all walks of life have spent their vacations or other spare time attending the five-day festival of learning at the Brigham Young University. All of the colleges of the University, through their faculties and off-campus consultants, provide selected educational experiences which help members of the Church and other patrons of the University become better leaders in the professions, the home, the community, and the Church. Leadership Week is leadership training for everyone, since all in the home are leaders or potential leaders. A few of the areas of instruction are these: human relations, scientific advancements, the world of business, better teaching methods, music, drama and speech activities, teen-age problems, and handicraft arts. Instruction in genealogy, the scriptures, and religion lectures from the General Authorities and others also add greatly to the interest and value of Leadership Week. Devotional assemblies, evening entertainments, tours, lectures, demonstrations, and workshops enhance the offering of this week. A special Youth Program is included for those 12-17 years of age.

B.Y.U.-Ricks Adult Education Center

The first center to be established was at Rexburg, Idaho, in July of 1956. In January of 1959, the center headquarters were moved from Ricks College to 160 North Holmes Avenue, Idaho Falls, Idaho. A sub-center is still maintained at Ricks College in Rexburg. The center provides off-campus courses, evening school, summer school, leadership week, and special programs. On November 15, 1959, a branch of the Audio Visual Center Services of the Brigham Young University was established at the B.Y.U.-Ricks Center. This service is under the direction of Seth H. Bills of the Rexburg office. There are 350 basic prints available through the center at the present time. This is one more important step in the continued expansion of the B.Y.U.-Ricks Center. The services of this center have stretched as far as Nampa, Idaho, on the west and Afton, Wyoming, on the east to offer

short courses and credit classes.

B.Y.U.-Ogden Adult Education Center

To provide the people in and near Ogden with some of the advantages enjoyed by those living close to the Brigham Young University campus, the Church authorized the University to utilize the former institute building at 555-24th Street as an adult education center. The center was officially opened August 10, 1957, offering academic courses in upper division and graduate work and informal courses, lectures, programs, and a leadership week. The center draws its faculty from B.Y.U. and professionally qualified persons living in the Ogden area. Local instructors are approved by the B.Y.U. administration in the same manner used in employing regular full-time faculty members.

B.Y.U.-Salt Lake Adult Education Center

On January 1, 1959, the building occupied formerly by the McCune School of Music and Art, 200 North Main, was opened as the third B.Y.U. Adult Education Center. Its program follows the pattern established in the other centers. Courses and programs are offered in religion, genealogy, speech, history, recreation, writing, art, education, and other fields. Special programs are organized for industry, commerce, and church groups where requested. A forum assembly program was also added in the fall of 1959 with noted speakers participating. Full information may be obtained by phoning Salt Lake City, DA 2-1656.

B.Y.U.-Los Angeles Adult Education Center

The most recent adult education center was established in Los Angeles to serve the southern California area. It is located at 3621 South McClintock Avenue. This center will offer all of the major program of the other adult education departments. From the center, people in southern California may take courses for credit or non-credit, participate in a leadership week in Los Angeles, receive help and information on travel studies, home study, publications, and audio-visual materials, etc. Due to the nature of the Los Angeles population, classes will be taken to various areas of the city instead of bringing students to a central location.

AUDIO-VISUAL COMMUNICATIONS

The Brigham Young University Audio-Visual Center is one of the largest and most complete teaching materials centers in the nation. Its purpose is to serve departments of the University, various church organizations, public schools, and industry with the finest materials for instruction that can be obtained.

To provide more efficient and effective service the Audio-Visual Center has departmentalized its various functions into the following areas:

Circulation Section: This area provides films, film strips, and recorded tapes for use by Brigham Young University faculty and students, public schools, and interested individuals and groups.

The center's film rental library contains 16 mm sound motion pictures, 35 mm filmstrips, and 2" x 2" color slides. The motion pictures, filmstrips, and slides cover a wide variety of both educational and religious subjects. B.Y.U. Motion Picture Production Department releases are among those films available.

The magnetic tape library has more than 2,000 titles. This includes such items as addresses given at the General Conferences of the Church of Jesus Christ of Latter-day Saints, B.Y.U. devotional assembly talks, and other important speeches given on campus. In addition, taped radio programs of an educational nature are available. Tapes may be obtained on rental basis, or tapes may be duplicated for sale.

Production Section. This section services two areas: (1) campus work, which includes layout and illustration (art and photography) for any type of publication

as well as the production of custom instructional materials for on-campus use, and (2) production of instructional material for use of Church groups and schools.

Service Section. This section provides public address and recording services as well as maintaining and repairing audio-visual equipment.

Further information may be had by writing or calling the Audio-Visual Center. A catalog and supplementary bulletins listing materials available, conditions of service, and rental rates will be sent on request.

ENROLLMENT SUMMARY—1958-59
PROVO, UTAH
AS OF AUGUST 31, 1959

College	5th Year					Men	Women	Total
	Freshman	Sophomore	Junior	Senior	Professional	Graduate		
Biological and Agricultural Science	218	204	189	150		2	81	763
Business	363	361	400	357		8	414	1489
Education	409	398	558	656		34	1402	2055
Family Living	235	201	157	118		5	20	696
Fine Arts	230	164	171	130		7	383	702
Graduate School						1588	499	1588
Humanities and Social Sciences	269	271	340	321		8	428	1209
Nursing	86	46	22	47			3	198
Physical and Engineering Sciences	521	352	277	254	91	6	39	1501
Physical Education	134	105	91	103		8	154	441
General College	1457	513	125	59		2	966	2156
Total Daytime College Students on Campus	3922	2615	2330	2195	91	1668	5260	12,821**
Evening College Students on Campus							760	1,429
Net Cumulative Total College Level								14,250
B.Y.U. LABORATORY SCHOOLS								
Junior High School							96	83
Senior High School							106	179
Elementary School							103	185
Total, B.Y.U. Laboratory Schools							305	199
								563
TOTAL STUDENTS ON B.Y.U. CAMPUS								14,813

*Complete for the school year 1958-59, including Summer School 1959.

**Total enrollment for Autumn, Winter, and Spring Quarters only was 11,427. Total Summer School enrollment was 3,224, of whom 1,392 attended Summer School only.

[illegible]

North Pocatello	12	Riverside	9	South Davis	18	Wells	12
North Rexburg	24	Roosevelt	31	South Idaho Falls	73	West Boise	55
North Sacramento	48	Rose Park	10	South Los Angeles	76	West Jordan	58
North Sanpete	44	Sacramento	40	South Ogden	29	West Pocatello	24
North Seattle	27	Sandy	5	South Salt Lake	21	West Sharon	18
North Sevier	26	Shreveport	3	South Sanpete	30	West Utah	188
North Tooele	34	St. George	55	South Sevier	48	Wilford	29
North Weber	13	St. Johns	56	South Summit	47	Willamette	56
Nyssa	63	St. Joseph	31	Southern Arizona	7	Woodruff	31
Oahu	36	St. Louis	4	Spanish Fork	136	Winder	2
Oakland-Berkeley	97	Salmon River	10	Spokane	45	Yellowstone	20
Ogden	23	Salt Lake	20	Springville	149	Young	88
Olympus	1	San Antonio	8	Star Valley	28	Yuma	14
Oneida	24	San Bernardino	45	Sugar House	28	Zion Park	19
Oquirrh	20	San Diego	48	Summit	22		
Orange County	15	San Diego East	36	Tacoma	38		
Orem	112	San Fernando	40	Taylor	50		
Orem West	110	San Francisco	36	Taylorville	18		
Orlando	5	San Joaquin	44	Temple View	12		
Palmyra	95	San Jose	22	Teton	38		
Palo Alto	44	San Juan	83	Timpanogos	127		
Panguitch	30	San Luis	31	Tooele	43		
Park	22	San Luis Obispo	8	Tucson	22		
Parowan	8	San Mateo	41	Twin Falls	77		
Pasadena	77	Santa Barbara	22	Utah	44		
Phoenix	28	Santa Ana	26	Union	40		
Phoenix North	10	Santa Monica	58	University	19		
Pioneer	7	Santa Rosa	48	Utah	249		
Portland	85	Santaquin-Tintic	27	Utah State University	2		
Portneuf	42	Seattle	41	Uvada	25		
Provo	210	Sevier	50	Valley View	20		
Raft River	11	Sharon	215	Virginia	9		
Redondo	36	Shelley	34	Walnut Creek	45		
Reno	47	Smithfield	7	Wasatch	85		
Reseda	24	Snowflake	45	Washington	70		
Rexburg	29	South Bear River	13	Wayne	14		
Richland	71	South Blackfoot	41	Weber	11		
Rigby	33	South Box Elder	25	Weber Heights	2		
Riverdale	15	South Carolina	32	Weiser	45		

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Central States	66
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Eastern Canadian	2
Eastern States	89
Finnish	8
French	4
Great Lakes	63
Gulf States	25
Hawaiian	32
Mexican	9
Netherlands	3
New England	31
New Zealand	3
North Central States	44

North German	1	Southwest Indian	6
Northern California	24	Spanish-American	7
Northern Far East	12	Swiss-Austrian	1
Northern Mexican	2	Tongan	4
Northern States	45	Uruguayan	6
Northwestern States ..	74	West Central States ..	63
Norwegian	4	West German	3
Samoan	2	Western Canadian	37
South African	1	Western States	42
Southern Far East	8	Non L.D.S. Students	688
Southern States	48		

**BRIGHAM YOUNG UNIVERSITY 1958-59 CUMULATIVE AUTUMN, WINTER,
SPRING AND SUMMER ENROLLMENT, REGULAR DAYTIME COLLEGE
STUDENTS FROM THE COUNTIES OF UTAH AS OF AUGUST 31, 1959**

Beaver	22	Piute	24
Box Elder	82	Rich	9
Cache	32	Salt Lake	932
Carbon	72	San Juan	72
Daggett	3	Sanpete	113
Davis	184	Sevier	118
Duchesne	71	Summit	67
Emery	51	Tooele	108
Garfield	24	Uintah	93
Grand	13	Utah	3079
Iron	35	Wasatch	86
Juab	53	Washington	76
Kane	27	Wayne	16
Millard	150	Weber	205
Morgan	16		
			<u>5,833</u>

REGISTRATIONS THROUGH ADULT EDUCATION AND EXTENSION SERVICES

1959 January through August

Academic College Co-sponsoring Courses and Programs	Credit Courses		Non-credit Courses		Totals	
	Enroll- ments	*F.T.E.S.	Enroll- ments	*F.T.E.S.	Enroll- ments	*F.T.E.S.
Bio. & Agr. Sci.	569	31.2	31	5.6	600	36.8
Business	668	39.4	658	16.5	1326	55.9
Education	1733	106.0	690	10.2	2423	116.2
Family Living	399	20.5	139	4.3	538	24.8
Fine Arts	1187	72.5	281	20.5	1468	93.0
Hum. & Soc. Sci.	3191	204.1	520	21.2	3711	225.3
Nursing			25		25	
Physical Education	768	23.9	1296	25.5	2064	49.4
General College	383	24.1			383	24.1
Religion	2211	105.6	2663	136.9	4874	242.5
Library Science	7	.2	17	.4	24	.6
TOTAL	11,966	682.2	6432	243.3	18,398	925.5

*F.T.E.S. means "Full-Time Equivalent Student." This is calculated by dividing the total number of hours by 45.

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Agricultural Technology	402	College of Humanities and	
Agronomy	162	Social Sciences	128
Air Science	166	College of Nursing	134
Akkadian	193	College of Physical and	
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American History and Govern-		College of Physical Education	139
ment Requirement	269, 367	College of Religious Instruction	141
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